# FEEDSTUFFS

*The Weekly Newspaper for the Feed Industry*

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## FEEDSTUFFS *Features This Week*

**EGG SHELL QUALITY**—This article says that calcium intake, strain of bird and production rate all influence shell quality. **Page 18.**

**OLD MILL**—A young Wisconsin feed man has turned an old mill into a profit maker. **Page 34.**

**MARKETING EGGS**—Feed men tell how they help producers market their eggs in an article on **page 42.**

**FRYER-ROASTER TURKEYS**—A turkey industry official says the industry must take an interest in consumer acceptance. **Page 50.**

**THREE-WAY DEAL**—An eastern feed man tells why he likes production of meat birds under a three-way deal in an article on **page 78.**

**FINANCING**—A feed man turned banker says that feed financing is growing up. **Page 90.**

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# Feed Men Get Clarification Of FDA's Regulations on Drug-Containing Concentrates

By GEORGE L. GATES
Editor of Feedstuffs

WASHINGTON—A clarification of the Food and Drug Administration's approach to the question of regulating drug-containing feeds in concentrate form was brought to the attention of feed men attending the Grain & Feed Dealers National Assn. convention March 23.

FDA officials, appearing on a feed forum, said that no blanket elimination of the requirement for new drug applications by mixers using concentrates is possible. However, if individual new drug applications held by feed manufacturers include proper labeling which provides instructions for further mixing, no additional NDA's are required from mixers using the concentrates.

The key to whether such a procedure is permissible apparently revolves around a determination whether or not the drugs contained in the concentrate would constitute a hazard if the concentrate should by accident be fed without addition of grain or other ingredients.

Officials pointed out that this approach has been a part of FDA procedure for some time. However, feed men have been under the impression that new drug applications would be required of all mixers using all types of concentrates, as well as premixes, as a result of a statement made by an FDA official at the initial industry liaison committee meeting with FDA representatives. The question has been a subject of study and negotiation by the committee since that time.

**Flexible Programs Seen**

Just what proportion of new drug applications for such concentrates now in force include this "exemption" from the additional NDA requirement for mixers is not known. It appeared from the discussion, however, that feed manufacturers

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# Solutions to Poultry Health Problems Sought by Scientists at Research Meeting

WASHINGTON — Possible solutions to some of the continuing problems of poultry health were sought by scientists attending the Research Conference on Disease, Environmental and Management Factors Related to Poultry Health here.

The conference was held March 20-22 in Jefferson Auditorium of the U.S. Department of Agriculture under sponsorship of the USDA's Agricultural Research Service and the University of Georgia.

Research information was presented on respiratory diseases, salmonella infections and avian leucosis complex. And, reports were given on field studies of broiler condemnation losses.

The conference placed emphasis on the losses to producers and processors and the tendency to increase consumer prices brought about by condemnations in broiler processing, dressing of turkeys, egg handling and marketing and other phases of the industry.

Extent of disease-caused damage in broilers was brought to the attention of the public since the compulsory federal inspection of poultry for wholesomeness became effective. During 1959 inspectors condemned 1.69% of broiler and fryer meat. It has been estimated that disease was responsible for 80-90% of the condemnation loss, USDA said.

USDA said that the information from the conference would prove useful in its expanding investigations

(Turn to SOLUTIONS, page 109)

# Sharp Increases in Egg-Type Chick Hatch Reported

WASHINGTON—The new season of egg-type chick hatchings is shaping up as one of larger proportions than its predecessor of 1960, but of slighter stature than that of over-expanded 1959.

Out this week with its latest hatchery production report the U.S. Department of Agriculture said egg-type chicks hatched in February added up to 48,539,000—up 27% from the record low hatch of February last year, but 21% below the February, 1959, hatch. Furthermore, eggs in incubators on March 1 indicate that the egg-type hatch in March will be larger than the relatively small March hatch of last year. According to the

(Turn to CHICK HATCH, page 105)

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# Poult Hatch More Nearly Matching Turkey Intentions

WASHINGTON — The hatchery production report issued this week by the U.S. Department of Agriculture indicates that poult hatchings are simmering down to a volume more in keeping with the expansion foreseen in turkey production.

February, 1961, production of poults of all breeds, of which all but 1½ million are in the heavy breed categories, was down to 30% greater

(Turn to POULTS, page 105)

# *Trade's Involvement with Washington Events Noted at GFDNA Meeting*

By GEORGE L. GATES
Editor of Feedstuffs

WASHINGTON — Industry's close involvement with Washington events was pointedly emphasized for members of the Grain & Feed Dealers National Assn. this week in location, time and circumstance.

Not only were the 1,000 or more grain and feed men "on the scene" in the capital city for their 65th annual gathering March 22-24, but their presence there coincided with some significant developments on the legislative and administrative stage which are of very direct importance to them and the industry with which they are affiliated.

Passage of the administration's quickie feed grain bill, a measure which many industry men feel will vitally affect their business operations in the coming year, was the talk of the corridors. Many of the delegates sat in the congressional galleries to watch actual passage of the final bill.

The appearance of a number of government officials, some of them high-ranking and influential in administration policy, marked the proceedings with an atmosphere of intimate briefing on government actions yet to come—on the Food & Drug Administration front, surplus food disposal, grain storage and other matters. (See accompanying report on the FDA session.)

"Never has there been a time when it was so important for our industry to take a deep interest in what is taking place here," Charles Force, president of GFDNA, said in

(Turn to GFDNA, page 108)

# Provisions and Effects of New Feed Grain Bill Termed Vague

By JOHN CIPPERLY
Feedstuffs Washington Correspondent

WASHINGTON—Congress enacted this week and President Kennedy signed into law the feed grains bill designed to increase the level of price supports for corn to $1.20 bu. for corn producers who comply with acreage allotment by reducing their 1959-60 production base by 20%. Other feed grains such as oats, rye and barley grown on corn or sorghum farms will be required to be in compliance with the basic acreage reduction if they are also to be eligible for price supports.

Soybeans which for the new crop will be supported at $2.30 bu. will not be subject to the foregoing cross compliance level.

**Measure Challenged**

This measure which Republican farm leader Sen. George D. Aiken has described as a "demoralizing influence" on grain markets and the grain trade was immediately challenged by William F. Brooks, National Grain Trade Council president, who expressed the uncertainty of the vague measure and the discretionary administrative authority it gives a secretary of agriculture. Mr. Brooks has asked the U.S. Department of Agriculture to fix a conference date with trade representatives to explain the proposed sell-back techniques which the government contemplates regarding the quantities of corn which USDA will obtain from certificates issued to corn farmers complying with an acreage adjustment.

NGTC wired Secretary Freeman and asked for "an opportunity to discuss the implementation of the bill's provisions in regard to CCC stocks in compensation payments—in some in-

(Turn to GRAIN BILL, page 108)

# Earnings Increase At Central Soya

FT. WAYNE, IND. — Increased earnings for the three month period ended Feb. 28 and for the six month period ended the same date were reported by Central Soya.

Harold W. McMillen, board chairman, said that after provision for federal and state income taxes in the amount of $1,250,827, net profits of $1,195,540 were earned in the second quarter. This compares with first quarter profits of $1,116,406 and with

(Turn to EARNINGS, page 105)

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## Top of the Hopper

**MOST AGRICULTURAL COMMODITIES** will be produced and sold under private agreements 10 years from now or by federal marketing orders. This prediction was made recently by Dr. Tyrus R. Timm, Texas A&M College economist.

Dr. Timm said that he looks for eggs, hogs and even field crops to continue to come under vertically integrated programs. "Mills bought three fourths million bales of cotton in 1960 where someone at the mill dictated management decisions in its production," he pointed out.

The economist predicted that agriculture trends established in the '50's are likely to continue through the '60's. He gave these examples: Vertical integration will continue to grow; federal government roles in agriculture markets will continue; and the total number of farms will continue to decrease.

**THE NEW SECRETARY** of health, education and welfare, Abraham Ribicoff, is reported to be considering legislative proposals to (1) exempt from the Delaney cancer clause feed additives which leave no residues in meat, milk or eggs, and (2) provide for automatic revocation of new drug applications for veterinary drugs which are suspected carcinogens. This is pointed out in a recent Animal Health Institute bulletin.

The two proposals were made by the previous secretary but have not yet been considered by Congress. The idea of exempting from the Delaney clause additives which do not harm the animal and which do not carry over into human food was developed by FDA people last year. Along with this, Secretary Flemming advocated automatic revocation of NDA's for suspected carcinogens.

AHI says that FDA people are interested in the automatic revocation proposal for new drugs. They now can revoke clearances for pesticides and food and color additives if there is suspicion of carcinogenicity, and they are said to favor having the same authority for new drugs. And in order to get this, they would go along with the Delaney clause exemption for additives which leave no residues.

If the automatic revocation authority were in effect, a drug like stilbestrol would be ruled out. However, with the additional change in the law to exempt from the Delaney clause additives which leave no residue in the end product, the problem for stilbestrol and other suspected carcinogens could be eliminated since they have not been shown to leave residues when properly used.

**A MIDWESTERN FEED MANUFACTURER** involved in integrated or coordinated broiler and turkey operations says that he will definitely move more extensively into breeder flock operations in the next year. He feels, based on his experience, that it is necessary in order to get better quality and production results.

**A SOUTHWESTERN FIRM** which is reported to be promoting swine feed business is changing its methods. Instead of promoting tonnage by customer financing, the firm is now working with larger feeders on a cash to 30-day basis. A representative of the firm says that financing the feed and hogs proved unprofitable because of small units involved and inefficient management by small producers.

**AN EXECUTIVE OF A FEED** manufacturing firm serving a livestock area says he feels that it will be increasingly necessary to offer varied feed

(Turn to **TOP OF THE HOPPER**, page 111)

## How's Business?

AN EVERY WEEK REVIEW OF FORMULA FEED BUSINESS VOLUME, INCLUDING PRICE, SUPPLY AND DEMAND TRENDS

**Formula feed business for the week ranged from unchanged to improved over the previous week. Business was unchanged in the Southeast and South Central while other regions indicated business was improved. However, March business is not up to the earlier expectations of the mills.**

**In some areas the dull business tone was attributed to a waiting on the part of both the farmer and retailer to see just what the new government feed grain bill would be like and in other areas ground was wet either from rains or thawing in the northern areas and farmers were hesitant about having the delivery trucks cut up their yards.**

**Cattle feeds were doing a good volume with much of that volume on contracts ending this month which are below current prices. Hog feeds were doing well and poultry feeds were moving nicely and there was a pickup in the turkey feeds.**

**Feed prices were expected to move slightly higher to reflect higher prices in soybean meal and millfeeds.**

**The wholesale feedstuff price index edged up to 82.1 this week compared with 81.9 last week and 80.0 a year earlier. The feed-grain index dropped 1.5 points to 62.7 this week. It was 66 a year ago. The corn-hog ratio, based on Chicago prices, was 15.2 this week compared with 15.7 last week and 13.8 a year ago. (Feed markets in detail on pages 106-108.)**

### Northwest

Feed business in the Northwest was better this week for most manufacturers. Feed men described it as being "better" to "brisk." However, one mill said business was "lousy" and placed the blame on soft farm yards and farmers holding back on ordering to keep delivery trucks from cutting up their yards.

The pickup in business which began for some mills by the end of the previous week gave some firms an optimistic outlook on the prospects for the month's volume.

Cattle feeds are moving well with some of that business attributed to favorable bookings of six months ago. Dairy feeds are also doing well. Hog and poultry feeds are moving with turkey business picking up.

Good hog and egg prices were given the credit for the showing made by feeds in those areas.

Soybean meal and millfeed price advances will be reflected by higher prices of feeds. Prices are slated to be unchanged to $2 higher, with the higher prices coming on the high protein feeds.

### Northeast

Each week this month formula feed sales have staged an improvement but the upturn has been slow and slight and not up to the trade's expectations for March.

One spokesman said there are lots of chicks and cattle to feed but "nobody is doing a runaway business." He added there may be scattered companies giving a good account of themselves but it isn't the general rule.

Even the sales pattern hasn't budged much to a more seasonal trend. There has been a slight switch to complete dairy feeds but most of the turnover still remains in concentrates. Egg mashes continued at a good clip. But chick starter and growing feeds, which the trade had depended on to help swell their volume, haven't moved as well as expected. Broiler feeds lagged.

Broiler prices were off a little. And egg prices dipped 1-2¢ in an unusual trend during the Easter season. But a spokesman said heavy supplies may be hanging over the market.

Ingredient prices were soft during the week, with some of the decline reflecting seasonal factors and others lack of demand.

A flurry of trading in millfeeds failed to carry through and demand turned extremely quiet. The lack of a seasonal upsurge in dairy feed demand puzzles millfeed men, who daily watch the time element slip by as the grass season approaches.

Running time of formula feed manufacturers held steady at 36 hours last week.

### Southwest

Formula feed business in the Southwest continues to show some seasonal improvement but most trade sources feel we are still several weeks away from better business. Mills are operating on a five day basis but backlogs of orders are very small in most cases.

Many mills are shipping the remaining cattle feed orders which terminated in March as feeders have been encouraged to take these out due to the contracts being much under present levels. Current sales of cattle feed are largely confined to concentrates.

Pig feeds continue to pickup in volume with promotions on starter rations being successful.

Broiler feeds continue to move in good volume while other lines remain about unchanged for the week.

Ingredient replacement prices increased in some lines during the week. Millfeeds and soybean meal were up while corn gluten feed and cottonseed meal were slightly lower.

Concentrate base formula feeds probably will see slight increases while others should remain about unchanged.

### Central States

Formula feed trade appears to be holding up fairly well and giving a good account of itself. Indications are that, so far, the current week was about the best of the month although it must be admitted that "plus" is not really a substantial one.

Compared with a year ago, March seems to be lagging a bit, but this is no particular disgrace as March, 1960, had just about the biggest all time record volume for a number of concerns.

Running time is hovering right around the standard 40 hour week with shipping directions coming in at a sufficient pace to prevent any particular inventory build-up. Poultry feeds should start moving in heavier volume very shortly.

### Southeast

Formula feed business in the Southeast is reported as being unchanged. Most of the southeastern states continue to increase replacements of chicks on the farm slightly.

(Turn to **MARKETS**, page 111)

**Peter Hand's Research Farm** functions as part of your own research program. Formulas and feeding plans are tested on swine, sheep and cattle and on commercial-size flocks of broilers and turkeys.

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*Answer:* When it involves a cut-rate fortifier!

Take vitamin premixes for example. They're the most expensive element in a ration on a per pound basis. But look again and you'll see they represent no more than 5% of the total cost of a ration. So even if you could cut your vitamin cost *in half*, you would save only 2½% overall.

Moreover, there are many times when buying vitamins strictly on the basis of lowest-cost-per-pound is *false* economy. Cut-rate vitamin premixes are liable to deteriorate rapidly, or separate, leaving you with two alternatives: run the risk of underfortification or use up the savings by adding extra vitamins "to be on the safe side."

The same reasoning holds true for all fortifiers. With Peter Hand products, however, you can always be sure of *true* economy, because they are guaranteed to come up to specification *100% of the time*. Put your Peter Hand representative on the spot—ask him to show you how you can save time, trouble and money with reasonably priced, premium quality Peter Hand products.

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# Soybean Report Holds Surprises

By Special Correspondent

CHICAGO — This week's Census Bureau report covering operations in the soybean processing industry for the month of February provided a couple of surprises.

Not only was the crush of 33,970,000 bu. for the short month somewhat larger than private sources had estimated, but stocks of soybean oil meal in processors' hands at the end of February amounted to 33,000 tons more than a month earlier—even though the bean crush was about 4,300,000 bu. less than the all-time high record January crush of 38,327,000 bu.

The meal total at the end of February was 163,600 tons, almost twice the year-ago total of 94,000 tons. Meal production for February bulked to 783,400 tons vs. 891,600 and 697,300 tons, respectively, a month and year ago.

**One Third of Crop**

So far this season, processors have accounted for 182,290,000 bu. of soybeans or very close to one third of the 1960 bean crop. This figure is around 11½ million greater than for the first five months of the preceding season. Offsetting, in part, the failure of processors to whittle down their holdings of meal during February, the report shows that their stocks of crude bean oil March 1 were down to 90,900,000 lb. This is about 22,200,000 lb. under the month-ago total and very materially less than a year ago when they totaled 156,500,000 lb.

Future trade in soybean oil meal at Chicago is holding up very well and has been averaging better than 1,100 tons per session. This is in much contrast with a year back when the daily average was only slightly over 300 tons. March 21 was the last day for pit liquidation of the remaining open commitment in March bean

(Turn to SOYBEANS, page 109)

## Oilseed Meal Futures In Irregular Pattern

MEMPHIS, TENN.—Prices of oilseed meal futures formed an irregular pattern on the Memphis Board of Trade during the past week.

Many contracts moved downward, reportedly due to slack business on the cash market. About mid-period, however, soybean oil meal demand was good. And cottonseed oil meal remained slow while achieving slight improvement.

The up-and-down movement of the soybean futures market also affected oilseed meal futures prices.

Unrestricted soybean oil meal closed March 21 $2.50 ton lower to 65¢ higher than on March 14. Eastern Trunk Line soybean oil meal closed unchanged to 25¢ higher. Bulk solvent cottonseed oil meal closed unchanged.

Trading volume for the week amounted to 5,700 tons of unrestricted soybean oil meal and 500 tons of bulk solvent cottonseed oil meal.

The March contract expired quietly March 20.

## Director Elected

CHICAGO—Election of George H. Dovenmuehle, chairman of the board of Dovenmuehle, Inc., to the board of directors of Hales & Hunter Co. here has been announced by the firm. The company manufactures Red Comb-Pioneer feeds.

Mr. Dovenmuehle replaces the late Joseph D. Stockton, according to William M. Hales, chairman of the board, and W. H. Garvey, Jr., president, Hales & Hunter Co.

Those reelected to the board of Hales & Hunter Co. include: William H. Garvey, Jr.; Marion J. Hales; William M. Hales; Louis B. Howard, dean, University of Illinois College of Agriculture; Earl M. Hughes; Lemuel B. Hunter, vice president for administration, Inland Steel Co.; Harold J. Nutting, chairman of the Board of Overseas Industries, Inc., and Edward E. Woolman.

Ray Hall

Frank Hanold

## Vitren Corp. Appoints F. Hanold, R. Hall

ONTARIO, CAL.—The appointment of Frank Hanold and Ray Hall to the staff of Vitren Corp., vitamin pre-mix manufacturer, Ontario, has been announced by Robert Beals, company president.

Mr. Hanold has been named director of research. In addition to his research duties, he will be available to feed mills on health and nutrition problems. For the past 5½ years he was with Albers Milling Co.

Mr. Hall has been named sales manager of the firm's western division. He returns to the Vitren organization after six years with the western division of Chas. Pfizer & Co. Mr. Hall will handle Vitren sales in the West.

## USDA Indicates Okay Of Cut Price Corn Sale

WASHINGTON—The U.S. Department of Agriculture plans to recommend that Publicker Industries, Inc., Philadelphia, and other interested companies be allowed to buy government surplus corn at reduced prices for an experiment in making industrial alcohol, it was reported this week by the Wall Street Journal.

However, the newspaper said, Secretary of Agriculture Freeman had not yet approved details of the plan.

Publicker has asked the government to sell the distilling firm 30 million bushels of corn at about one third the 1960 support level of $1.06 bu. so it can cancel a verbal agreement to buy 120 million gallons of molasses from Cuba. Publicker had planned to use the molasses for making the industrial alcohol. About $12 million would be involved in either transaction.

The Wall Street Journal reported that USDA's recommendations presumably will be much like those announced a year ago in response to a request from Publicker. Bids were asked from companies interested in trying to make alcohol from corn, and successful bidders were to furnish technical and cost data on the experimental process.

# Chick Edema Factor Contains Chlorine

WASHINGTON—The chick edema factor—the toxic factor which was found in certain fat products—has been shown to contain chlorine, and this has led to speculation about things responsible for the presence of the factor.

This was pointed out by John L. Harvey, deputy commissioner of the Food and Drug Administration, in a talk before the Armed Forces Institute of Pathology. Dr. Harvey outlined the background of the situation in which feeds containing certain fat products killed millions of chickens. And he went on to describe work on the isolation of the factor.

He pointed out that FDA scientists isolated the factor and, as reported previously, Merck & Co. scientists almost coincidentally announced isolation of the factor.

"Although not absolutely identical, it is evident that each had independently been successful in a difficult task," Dr. Harvey said. "Merck & Co. additionally reported that their product contained chlorine, an ingredient not expected. Our product also contained chlorine.

"So we are now trying to determine more of the secrets of the 'chick edema factor.' Are chlorinated hydrocarbons used as pesticides responsible? Is the bleaching of tallow by active chlorine materials involved? Do we have a situation similar to the outbreak of hyperkeratosis of several years ago involving chlorinated naphthalenes which entered animal feeds through lubricating grease? Only further research will tell.

"In the meantime, and to emphasize the problem, another outbreak of chick edema occurred in Georgia in October of last year. Fat is again implicated, but this time it is rendered fat, not distilled fatty acids. This may change some of our tentative conclusions that the distillation process was the source of the toxic factor."

# Nation's Egg Marts Unchanged to Lower

NEW YORK — Prices in the nation's egg markets during the week ending March 22 were unchanged to 2½¢ lower on large, unchanged to 3¢ lower on medium, 1-4½¢ lower on small and 2¢ lower on standards and checks, according to the U.S. Department of Agriculture. However, prices to retailers in West Coast markets were as much as 2¢ above levels of a week ago.

With plentiful stocks available, buyers generally are in no haste to increase purchases. Trade advisers indicated that normal holiday buying was not yet satisfied.

Buying interest in the Northeast improved for mediums, but price resistance was noted in New England. Movement of smalls was rather disappointing; however, some export interest was noted at New York.

In Southeastern areas production was heavy and offerings were ample to excessive for fair demand.

Midwest terminal markets reported weakness at the close of the reporting period due to an unsettled and nervous undertone. Offerings were fully ample to burdensome and demand was only fair.

On the West Coast production increased seasonally. Some shipments from California to dealers outside the area were reported. Sales to retail outlets were satisfactory and stocks were adequate to ample.

**CHICAGO BAG SPEAKER**

CHICAGO — Harry Pomerantz of the Midwest Bag Co., Des Moines, and president of the National Burlap Bag Dealers Assn., addressed the Chicago District Bag Dealers on the needs of the bag industry at a recent dinner meeting held by the Chicago group at the Congress Hotel here.

# '61 Crop Plantings May Equal Last Year's

WASHINGTON — The March 1 plans of the nation's producers indicate about the same total crop plantings for the 1961 harvest as last year, according to the U.S. Department of Agriculture.

However, growers' plans were reported before much was known about the new feed grain program and generally do not reflect changes which may occur now that a program will be put into operation.

Feed grain acreage is expected to show a slight decline from last year, but food grains are expected to occupy a larger percentage, says the USDA. If March 1 planting intentions are carried out, it is expected that feed grains would be planted on 149 million acres, 1% less than in 1960, and nearly 5% less than average.

**Soybean Increase**

Soybeans are expected to make the most spectacular acreage shift with growers expecting to plant a record 26.4 million acres—nearly a tenth above last year and 6% above the previous peak.

Acreage of crops to be cut for hay is expected to decline slightly from last year, reports the USDA. Flaxseed acreage is expected to decline 10% to the lowest level since 1946 with all states, except Texas, showing less acres than last year.

Here's what the USDA says about prospective plantings for seven major crops in 1961:

- Corn plantings are expected to total about 82 million acres, slightly less than in 1960, but 2% above the 1950-59 average.
- Spring wheat plantings may total 12 million acres, 2% less than 1960, and more than one-fourth smaller than average.
- Oats intended plantings at 32 million acres are slightly more than last year's record low, but 24% less than average.
- Barley may be planted on 15 million acres, 1% less than last year, but 12% larger than average.
- Soybean prospective acreage at 26 million acres is the highest of record, 9% more than last year and 37% above average.
- Sorghums for all purposes may total 19 million acres, 5% less than 1960, and 2% below average.
- Hay acreage to be cut, at 69 million acres, is slightly less than last year and 7% below average.

Don Butler — Paul Cory — R. E. Miller — R. J. Mutti

**AFMA PANEL—Feed distribution patterns during the coming decade will be the subject of a panel discussion at the American Feed Manufacturers Assn. convention, to be held May 8-10 at the Conrad Hilton Hotel in Chicago. Don Butler, Creative Service Associates, Dayton, Ohio, will moderate the panel. Other participants include Paul Cory, sales manager, Moorman Mfg. Co. (direct selling); Robert E. Miller, director of marketing, Beacon Milling Co. division, Spencer Kellogg & Sons (dealer distribution), and Dr. R. J. Mutti, University of Illinois agricultural economist (farm mixing). (For details on the convention program, see Feedstuffs March 11.)**

Don Sanderson (left, center) reports, "We have fed nine thousand cattle on Stilbosol rations. All college feeding tests, plus our own experiences, proved to us that you can't stay in this business without Stilbosol."

# "Our cost of gain went down 4¢ a pound when we put Stilbosol back in our ration"

***"We're feeding Stilbosol again... this time for keeps," reports Don Sanderson, S&J Feedlots, Norton, Kansas.***

"Right after we went back to Stilbosol, we had a load of steers come in. We fed them for 140 days and they gained 448 lbs. per head.

"We figure our cost of gain with Stilbosol to run about 19 to 20¢ per pound. Without Stilbosol, our cost of gain shoots up to 23 to 24¢ per pound.

"If we don't feed Stilbosol, we lose about ¼ lb. daily gain per head. By the time it takes to fatten cattle for market, this loss of gain amounts to $9 or $10 a head. As close as they keep the margin on fat cattle, that $10 a head that Stilbosol gives you is most of your profit these days.

"A man couldn't last in this business if he didn't feed Stilbosol. Oh, sometimes he can make a profit if the margin is high enough, but in the long run he's going to go broke," Don concluded.

After seven years, Stilbosol continues to give feeders an extra 15% gain on 10% less feed.

**Stilbosol®**
(diethylstilbestrol premix)
ELANCO

Makers of **HYGROMIX®** (*S. hygroscopicus* fermentation products) • Streptomycin Sulfate • Vitamin $B_{12}$ • **Micro-Pen®** (special coated procaine penicillin G)

ELANCO PRODUCTS COMPANY • A DIVISION OF ELI LILLY AND COMPANY • INDIANAPOLIS 6, INDIANA

# What Level of Drugs Can Be Used in Feeds?

## FDA Official Offers Answers on Permitted Levels Of Antibiotics, New-Drugs and Not-New-Drugs When Used for Disease Control or for Growth Promotion.

By Dr. LaVerne C. Harold
Food and Drug Administration

A few weeks ago, I received a telephone call from a state feed control official near Washington, D.C. This state official had one question which he wanted answered. He wanted to know if 400 gm. of chlortetracycline could be used in a ton of poultry feed.

The state official said that he had recently received a request from a feed mixer to register this particular feed in his state. At first, the official said, he objected to the feed. However, the feed mixer was persistent in his demands. He insisted that there should be no objection to his feed since the antibiotic feed regulations of the Food and Drug Administration made no mention as to the maximum level of an antibiotic that could be used in a feed.

The feed mixer pointed out to the state official that the antibiotic feed regulations of the FDA were self-explanatory in regard to drug levels. The regulations state that a feed must contain, per ton of finished feed, the equivalent of not less than so many grams of antibiotic. This minimum level was necessary before a therapeutic claim could be made for the drug.

The feed mixer concluded from his analysis that there should be no objection to his proposed feed since it did contain the minimum level of drug required by the regulations.

**WHAT LIMITS DRUG DOSAGES?**—What limits drug dosages in feed? This question must be answered before we can determine whether or not a feed with a high drug content is permissible.

The poultry feeder may contend that the economics of feeding a drug should determine the level of that drug in a feed. He may reason that a poultryman will tend to feed only the level of drug necessary to accomplish the desired effect and that this level will be fed only when it is economically feasible. Further, it can be said that the feeder could not afford to feed a higher level of drug nor could he afford to feed a level of drug that would not be effective—the cost would be too great.

However, under the Federal Food, Drug and Cosmetic Act the safety and efficiency of the drug are the prime factors for consideration. The drug must be safe not only to the animal receiving the drug but to the ultimate consumer of the products from the treated animal.

Under the Federal Food, Drug and Cosmetic Act, there are three sections which may control the level of a drug in a feed:

*EDITOR'S NOTE: A talk of interest and significance to feed manufacturers was made by a Food and Drug Administration official at the annual Poultry Health and Management Short Course at Clemson Agricultural College, Clemson, S.C. The speaker was Dr. LaVerne C. Harold, assistant veterinary medical director of FDA. The accompanying article is the text of his talk.*

*Dr. Harold says, among other things, that the specified minimum level of a certifiable antibiotic for disease treatment is also the maximum level permitted, even though the regulations do not now so specify, except to the extent that a reasonable overage consistent to good manufacturing procedure is allowable. New drugs, he said, can be used in feeds at the levels specified in the new drug application.*

*For growth promotion, minimum levels have been set for two antibiotics in chicken feeds, and minimum levels for other antibiotics and for other species of animals will be established "as data justify."*

*"If the level of a drug in a feed is higher or lower than the levels quoted in the antibiotic regulations or in the new drug application, a question is immediately raised as to safety and efficacy of the drug," said Dr. Harold.*

1. Section 507.
2. Section 505.
3. Section 409.

**Section 507**—Section 507 pertains to certifiable antibiotics. This section covers those drugs containing, in whole or any part, penicillin, streptomycin, chlortetracycline, chloramphenicol, or bacitracin, or any derivative thereof. Derivatives of these antibiotics are those such as dihydrostreptomycin, zinc bacitracin and tetracycline.

When any of these drugs are added to feeds, data must be available to show that the drug is safe and efficacious for all claims made.

The regulation for controlling the certifiable antibiotic drugs in feeds is Section 146.26 of the antibiotic regulations. This section of the regulations specifies the drugs that may be used in a feed. The drugs include non-antibiotic drugs which may be used in combination with the certifiable antibiotics, as well as the antibiotics themselves. Feeds containing one or more of these drugs can be used only as prescribed in these regulations.

**Section 505**—Section 505 is the new drug section. Drugs other than the certifiable antibiotics may or may not be considered under this section of the law. How the drugs are handled depends upon whether they are considered "new drugs" or "not new drugs."

For a "new drug," the safety of the drug has not been fully determined or recognized through extensive use. These drugs must be handled under the new drug section. The "new drug" provisions require that a new drug application be submitted and allowed to become effective before the drug can be used.

The law limits the distribution of new drugs to the final dosage form as described in the application.

If a drug is considered a "not new drug," it is not subject to these provisions of the law. Drugs cease to be classified as new drugs when, in the opinion of qualified experts, sufficient experience has been gained in the use of the drugs to warrant their removal from new drug status. However, these "not new drugs" remain susceptible to other provisions of the law for adulteration or misbranding. Also, these "not new drugs" may again become "new drugs" under different conditions of use and representation.

**Section 409**—Section 409 is the food additives section. This section covers any substance, the intended use of which results, or may reasonably be expected to result, in its becoming a component or otherwise affecting the characteristic of any food. Exempted from this section are those substances which are generally recognized among experts to be safe for their intended use, and those substances having "prior sanctions" as that term is used in the Food Additives Amendment.

The food additives section makes no distinction between foods intended for man and those intended for animals. Any substance added to an animal's food would be considered under this section of the law.

To comply with Section 409, an additive must be shown to be effective for its intended use and the level of drug recommended must be only that which is reasonably necessary to accomplish the effect. The law provides that where a tolerance is necessary for a food additive, this tolerance shall not be fixed at a level higher than that reasonably required to accomplish the effect for which

(Turn to DRUGS, page 110)

## Poultry Overproduction Threat Called Problem

GLASTONBURY, CONN.—In a recent letter to customers, G. E. Coleman, Jr., president, Arbor Acres Corp., a major producer of breeding stock, issued a warning of threatened overproduction in the poultry industry during next fall and the spring of 1962.

"The problem of overproduction is the most important problem we face," he said, "and judging by current forecasts, now may be our last chance to do something about it. If we do not, the government may step in to do it for us."

Because of current industry forecasts, Mr. Coleman advised, "Proposed production levels should be examined most carefully and every effort made to keep sales estimates on a realistic basis."

Unless the poultry industry makes a voluntary effort to break the traditional "boom and bust" cycle, there is, according to Mr. Coleman, "a strong possibility of governmental intervention, a contingency unwelcome to most elements in the business.

"In other words," he said, "look before you leap. Or, to put it another way, a bird in the hand is worth very little if you have to keep it there."

## Columbus Feed Club

COLUMBUS, OHIO—Darwin Bryan, adult and youth education department, Farm Bureau Federation, will be the featured speaker at the April 3 meeting of the Columbus Feed Club in the Southern Hotel Terrace Room, according to Ralph Maby and E. O. Thomas, chairmen.

Entitled "A Scenic Tour Through Europe," Mr. Bryan's talk will include a color presentation of his recent visits to Brussels, London, Madrid, Lisbon and Paris. The April 3 meeting will start with a 6:30 p.m. social hour and dinner will be served at 7:30.

Other programs planned by the Columbus Feed Club include the annual May party on May 5, annual golf party June 8, at the London Country Club, and the first annual family day planned for Sept. 1. The annual holiday party will be held Dec. 9.

## Office Manager Dies

MINNEAPOLIS — Miss Marie Meyer, manager of Cereal By-Products Co.'s Minneapolis office, died of cancer late March 22 at St. Mary's Hospital in Rochester, Minn. Memorial services were held here March 25 and burial was at Irene, S.D., where she was born.

Miss Meyer, for more than 30 years an employee of Cereal By-Products, rose from secretary to the post she held at the time of her death.

Survivors include three brothers and a sister.

**MARYLAND CONFERENCE—Shown in these photos are some of the participants in the program of the Maryland Nutrition Conference in Washington, D.C.**

**In the first photo are Dr. N. V. Helbacka (left), and Dr. R. D. Creek, conference chairman, both of the University of Maryland.**

**Second picture—Dr. G. F. Combs (right), of the University of Maryland is visiting with George Gibson of Yieldmor Feeds, Piqua, Ohio.**

**Third picture—One of the guest speakers, Dr. M. C. Nesheim (left), of Cornell University, talks over program details with Dr. E. P. Young of the University of Maryland.**

**Fourth photo—Dr. E. C. Leffel (left), of the University of Maryland reported at the conference on a breakthrough in bloat research, and Dr. H. D. Wallace (right), of the University of Florida discussed various aspects of swine feeding. (Also see reports on the Maryland conference in the March 18 issue of Feedstuffs and beginning on page 10 of this issue.)**

# Ingredient Price Patterns Mixed

Soybean meal, millfeeds, fish meal and stabilized animal fats registered price gains this week in most markets across the nation, but other ingredients — including tankage, meat and bone meal, linseed meal, alfalfa meal, screenings and oat products—either were down from a week earlier or were holding steady.

Soybean meal's gain stemmed partly from higher bean prices, in both the cash and futures markets. Buying of soybean futures was touched off by a Census Bureau report which placed soybean crushings at about 700,000 bushels higher than had been anticipated. Also, soybean exports added strength.

The U.S. Department of Agriculture reported that U.S. wheat millfeed production amounted to 92,000 tons during the week ended March 22—a decline of about 4,000 tons from the week before. It was reported that there seemed to be more competitive bidding from jobbers and mixers, and mills offered millfeeds less freely. Generally, middlings were selling $2 ton higher and bran gained about $1.50 ton.

Fish meal showed good strength, but other animal protein feeds, meat meal and tankage, slipped $2@3 ton.

Expanding exports for feed and soap use were said to be the major factors behind a steady rise in the stabilized animal fat price to near 8¢ lb.

There was talk of some gain in the alfalfa meal market, but the market remained relatively unchanged. Production of alfalfa meal May, 1960, through February, 1961, was 1,327,800 tons compared with 1,314,700 tons during the comparable period a year earlier.

Corn gluten feed dropped $2 from the week before. Seasonally high production of brewers' dried grains resulted in a slight price reduction in that ingredient.

**Feeds: Average Bulk Prices and Index of Weighted Prices***
**(Dollars per ton)**

| | Mar. 21, 1961 | Mar. 14, 1961 | Change from previous week |
|---|---|---|---|
| **OILSEED MEALS** | | | |
| Prices at prin. mkts.: | | | |
| Soybean meal | 71.90 | 71.10 | + .80 |
| Cottonseed meal | 57.15 | 57.75 | — .60 |
| Linseed meal | 64.35 | 65.05 | — .70 |
| Copra cake or meal | 57.50 | 57.50 | ... |
| Peanut meal | 53.50 | 52.00 | +1.50 |
| Index | 87.6 | 87.1 | + .5 |
| **ANIMAL PROTEIN FEEDS** | | | |
| Prices at prin. mkts.: | | | |
| Meat meal | 87.60 | 88.85 | —1.25 |
| Tankage | 87.90 | 90.60 | —2.70 |
| Fish meal | 103.50 | 101.50 | +2.00 |
| Index | 78.5 | 79.1 | — .6 |
| **GRAIN HIGH-PROTEIN FEEDS** | | | |
| Prices at prin. mkts.: | | | |
| Gluten feed and meal | 49.75 | 51.35 | —1.60 |
| Dist. dried grains | 64.20 | 64.70 | — .50 |
| Brewers dried grains | 47.00 | 49.05 | —2.05 |
| Index | 81.1 | 83.3 | —2.2 |
| **WHEAT MILLFEEDS** | | | |
| Prices at prin. mkts.: | | | |
| Bran | 41.00 | 39.85 | +1.15 |
| Midds. and shorts | 40.85 | 39.95 | + .90 |
| Index | 73.9 | 72.1 | +1.8 |
| **OTHER MILLFEEDS:** | | | |
| Prices at prin. mkts.: | | | |
| Hominy feed | 41.45 | 42.55 | —1.10 |
| Rice bran | 31.50 | 32.00 | — .50 |
| Index | 64.2 | 65.8 | —1.6 |
| **ALFALFA MEAL** | | | |
| Prices at prin. mkts. | 51.55 | 51.65 | — .10 |
| Index | 99.2 | 99.4 | — .2 |
| **MOLASSES, FEEDING** | | | |
| Prices at prin. mkts. | 26.88 | 26.88 | ... |
| Index | 80.0 | 80.0 | ... |
| **ALL FEEDSTUFFS** | | | |
| Index | 82.1 | 81.9 | + .2 |
| **FEED GRAINS** | | | |
| Prices at prin. mkts.: | | | |
| Corn | 38.70 | 39.70 | —1.00 |
| Oats | 42.60 | 44.00 | —1.40 |
| Barley | 41.50 | 41.40 | + .10 |
| Grain sorghums | 38.10 | 38.20 | — .10 |
| Index | 62.7 | 64.2 | —1.5 |

*Base period of index is 1947-49.
Source: USDA.

**OREGON OFFICERS — New officers of the Oregon Feed & Seed Dealers Assn. elected at the group's 30th annual convention in Portland recently include, left to right, Randal "Bud" Cook, secretary-treasurer, The Leo Cook Co., Portland; Jim McDowell, president, McDowell Bag Co., Portland, and Stan Cellers, vice president, Buchanan-Cellers Grain Co., McMinnville.**

# Jim McDowell Is New Oregon President

PORTLAND, ORE.—Jim McDowell of the McDowell Bag Co. here, was elected president of the Oregon Feed & Seed Dealers Assn. at its 30th annual convention held in the Portland-Sheraton Hotel here recently. He succeeds Alec Runciman, Webfoot Fertilizer Co., Portland.

Elected to the office of vice president was Stan Cellers, Buchanan-Cellers Grain Co., McMinnville, and Randal Cook, The Leo Cook Co. here, will serve as secretary-treasurer. Russ Hays was retained as association manager.

New members of the board of governors are: Pat Driscoll, Albers Milling Co., Portland; Dave Lees, Lees-Carney Co., Portland; Linn Schrock, Milkiewa Feed Mills, Milwaukie; Jim Wells, Chase Bag Co., Portland; Jim Jenks, Jr., Jenks-White Seed Co., Albany; William Fisher, Cargill, Inc., Portland; Myron Ray, Farmers Feed & Supply, Forest Grove; Matt Gillis, Dallas Cooperative Warehouse, Dallas; Harry Schrenk, Irving Feed & Seed, Eugene, and Russell Marks, Quality Feed, Grants Pass.

Holdover members of the board are Mr. Runciman as immediate past president and Floyd Packer, Corvallis Feed & Seed, Corvallis.

Also at the meeting, the membership approved a change in the organization's by-laws, making the chairman of the association seed committee automatically a member of the board of governors. Effective immediately, Bob Rodgers, seed committee chairman, will assume an official position on the board of governors.

Official registration at the convention was 540.

### Convention Speakers

Speakers at the two day meeting were: Harold Rud, president, Pacific Northwest Plant Food Assn., "The Achievements and Goals of the Pacific Northwest Plant Food Assn."; Dr. James Millar, director and lecturer of the Good Citizenship Foundation, "America—Yesterday, Today and Tomorrow"; Dr. Ritchie Cowan, farm crop department, Oregon State College, "What's to Do in the Farm Crops Department"; Mel Goddard, supervisor of International Banking department, First National Bank of Oregon, "Export Challenges"; Harry A. Schoth, forage and range section, Agriculture Research Service, U.S. Department of Agriculture, "How a Has-been Sees the Future"; James Short, director, Oregon State department of agriculture, "Reorganization and Changes in the Department of Agriculture"; Dr. John F. Cramer, first president of Portland State College, "Impressions of Russia"; Leonard J. Casanova, head football coach, University of Oregon, "Some Views on the Demise of the Pacific Coast Intercollegiate Conference"; William Diamond, secretary of American Feed Manufacturers Assn., "Who's Got the Button?"; Rabbi Emanuel Rose, Congregation Beth Israel, "The Complex Simplicity of Life"; Robert R. Gros, vice president, Pacific Gas & Electric Co., "1961—A Shouting or Shooting Year."

### Future Ag Production

Delegates heard Dr. Cowan remark that the Pacific Northwest farmers and those in other sections of the country in 1975 will provide food, feed and fiber for a third greater population than today.

"This real challenge calls for research on more efficient use of all agricultural resources and more effective resource adjustment between agriculture and non-farm sectors of economy," he said. He emphasized that 1960's record agricultural production was accomplished with 30% fewer workers and some 5% fewer acres of cropland than in 1949 and that field crop yields per acre were increased by 43%.

"Oregon's future success depends upon an efficient crop production program, and technology will be more important than ever," Dr. Cowan explained concerning the part his department hopes to play in the future. "You may assist us by providing moral support, in aiding a reasonable appropriation and by encouraging top-notch students to major in agricultural science."

Mr. Goddard told the gathering that their success or failure in export trading "will be determined by the use you make of such organizations as your local chamber of commerce, field offices of the U.S. Department of Commerce, freight forwarders and foreign exchange departments of your banks.

"A quick look at available Oregon customs district statistics reveals that approximately 60% of all 1959 sales for the district were in commodities such as are handled by Oregon Feed & Seed Dealers Assn. members. It is apparent that little could be added to your know-how by a technician such as me," he stated. He concluded by pointing out that most of the current export problems are connected with settlement of collections, and he suggested ways of solving this problem.

## $100,000 Mill Damage

PULASKI, VA.—Fire, which for a time threatened to spread to the downtown business district, caused more than $100,000 damage to the three-story Pulaski Mills building.

# CAPITAL COMMENT

**By John Cipperly**
**Feedstuffs Washington Correspondent**

## Processing Question

WASHINGTON—Last week President Kennedy sent to Congress an artfully drafted message describing his objectives on the farm frontier. We called the President's report a "do-it-yourself" program for the American farmers (Feedstuffs, March 18, page 1).

It generally proposes that for each commodity, nationally or regionally, farmers or groups of farmers may choose marketing orders and production and distribution controls for their crops or other products. The White House proposal also envisages price supports, marketing allotments, compensation payments, incentive payments, export subsidies and other devices.

The outlook is most uncertain for processors of grains such as wheat, corn and barley.

If President Kennedy's proposals are followed, the political position of Congress would be reversed. Instead of functioning as a representative instrument of its farm constituents, it would set itself up as a blackball agency to reject what might be described as a Gallup Poll of farmers.

The White House sees in its proposals a "do-it-yourself-kit" for the farmers of the nation, but ultimately all final decisions must be made here in Washington at economic headquarters where such judgments will be made on a global or international concept of what our farmers must produce.

It is a big order—one which will

(Turn to COMMENT, page 108)

## Animal Agriculture Institute Plans Told

LAFAYETTE, IND.—The 11th annual conference of the National Institute of Animal Agriculture at Purdue University here April 3-4 is expected to attract 250 invited representatives of agriculture and allied industries.

Theme for the conference will be "The Public Stake in Animal Agriculture," according to Dr. Earl L. Butz, Purdue's dean of agriculture and institute chairman. He also announced program plans.

One of the features of the program will be a panel discussion on the relation of animal agriculture and the farm supply business. Among the panelists will be L. A. Wilhelm, Quaker Oats Co., Chicago, who will speak on "Animal Agriculture and the Feed Business."

The program will also feature Dr. Elmer Kiehl, dean of agriculture, University of Missouri, discussing the significance of livestock in American agriculture, and Dr. David Barr, president, Health Insurance Plan for Greater New York, New York City, describing "The Role of Fats in Our Diet."

Dr. Don Paarlberg, professor of agricultural economics at Purdue and former special assistant to President Dwight D. Eisenhower, will speak on the impact of feed grain controls on animal agriculture.

The program will also include: Dr. Gale Johnson, dean of social sciences, University of Chicago, speaking on the potential world market for American food and feed; Dr. Herrell DeGraff, Babcock professor of food economics, Cornell University, speaking on production and consumption potential for protein in the present decade, and Rep. Ralph Harvey, Indiana 10th district congressman and member of the House of Representatives committee on agriculture, speaking on the farm legislative situation in Washington.

# U.S. Files $628,300 Suit in Storage Case

By Special Correspondent

BUFFALO—The U.S. government filed suit March 23 for $628,300.98 in federal court here claiming losses on the storage of Commodity Credit Corp.-owned grain in a local elevator.

Named as defendants in the eight-count action are:

Connecting Terminal Grain Elevator Corp., operator of the elevator.

American Express Field Warehousing Corp., which the government said operated the elevator in 1959 under a warehousing agreement with Connecting Terminal.

Charles I. Minneci, treasurer of Connecting Terminal.

The Marine Trust Co. of western New York.

American Casualty Co., which provided the bond for Connecting Terminal.

**Similar Claims Involved**

U.S. Attorney Neil R. Farmelo, who filed the suit, explained that the suit involved similar claims against more than one defendant. As a result, he said, the total amount of claims is $628,300.98, although the actual damage that the government alleges it suffered is less than that amount.

The government seeks a total of $216,874.58 from Connecting Terminal alone; $174,536.29 from American Casualty; $143,550.17 from American Express Field Warehousing; $92,253.72 from Connecting Terminal, American Express and Marine Trust together, and $1,086.22 from Connecting Terminal and Mr. Minneci.

It also asks 6% interest on the damages and, in the case of claims of false storage invoices, it also seeks undetermined penalties and forfeitures.

**Shortage Alleged**

The complaint charges, among other things, that CCC stored 933,568 bu. of yellow corn in the elevator, but from March 1 to Aug. 31, 1959, Connecting Terminal redelivered only 876,475 bu. to it and some of it was inferior to the originally stored grain.

The complaint alleges that the missing 57,093 bu. were converted by Connecting Terminal, American Express and Marine Trust to their own use.

# Bradley Barr Opens K.C. Feed Business

KANSAS CITY—Bradley Barr has established his own business here, supplying micronutrients to the feed industry. His office, under the name of Bradley Barr & Co., is located in the Board of Trade building.

Mr. Barr recently resigned from the M. A. McClelland Co., where he had been associated for 11 years. Prior to that time, Mr. Barr was in close contact with the feed industry while he served 17 years in an executive capacity in the bag business.

**Sows Farrowing in Selected Corn Belt States**

| State | December through May* Average 1950-59 | December through May* 1960 | December through May* 1961‡ | December through May* 1961 as % of 1960 | June through August Average 1950-59 | June through August 1960 | June through August 1961† | June through August 1961 as % of 1960 |
|---|---|---|---|---|---|---|---|---|
| | 1,000 head | | | % | 1,000 head | | | % |
| Ohio | 375 | 321 | 347 | 108 | 159 | 165 | 172 | 104 |
| Indiana | 584 | 544 | 582 | 107 | 328 | 326 | 336 | 103 |
| Illinois | 936 | 867 | 902 | 104 | 329 | 409 | 409 | 100 |
| Wisconsin | 319 | 278 | 286 | 103 | 108 | 131 | 131 | 100 |
| Minnesota | 620 | 472 | 510 | 108 | 183 | 219 | 219 | 100 |
| Iowa | 1,854 | 1,510 | 1,616 | 107 | 538 | 602 | 660 | 110 |
| Missouri | 495 | 442 | 477 | 108 | 197 | 204 | 216 | 105 |
| South Dakota | 313 | 225 | 263 | 117 | 44 | 59 | 70 | 119 |
| Nebraska | 433 | 310 | 381 | 123 | 81 | 104 | 114 | 110 |
| Kansas | 146 | 133 | 160 | 120 | 44 | 50 | 60 | 120 |
| Total 10 states | 6,076 | 5,102 | 5,524 | 108 | 2,010 | 2,271 | 2,387 | 105 |

*December preceding year.
†Number indicated by breeding intentions reports.
‡Sum of December through February farrowings and March through May intentions to farrow.

# Corn Belt Farrowing Indications Told

WASHINGTON — Nebraska leads the 10 Corn Belt states with a 23% increase in the number of pigs farrowed or intended for farrowing this spring, according to the pig crop report of the U.S. Department of Agriculture.

The number of pigs farrowed or intended to farrow this spring (December-May) in the 10 states is up 8% from the same period of 1960, but 9% below the 1950-59 average (Feedstuffs, March 18, page 1).

All of the states show increases over last year. The rates of increase are: Kansas, 20%; South Dakota, 17%; Minnesota, Missouri and Ohio, 8%; Iowa and Indiana, 7%; Illinois, 4%, and Wisconsin, 3%.

In the June-August period, Kansas farrowing intentions indicate that state will lead the 10 state group with a 20% increase in numbers. Following closely behind with a 19% increase will be South Dakota, according to the USDA indications.

The accompanying table shows the number of head intended to farrow as compared with 1960 as well as the 1950-59 average and the percentage increases.

# G.L.F. Exchange Plans New Pelleting Plant

BUFFALO, N.Y. — The Co-operative G.L.F. Exchange, Inc., plans to start construction this spring of a new pelleting plant here adjacent to its existing facilities at 333 Ganson St.

Richard W. Smith, director of production operations for G.L.F., said the Baxter Engineering Co. has prepared plans for the building, which will be constructed either of concrete or steel.

The L-shaped building will be 72 ft. on its longest side, 48 on the other, and will be 100 ft. high, Mr. Smith said. He gave no estimate of the cost of this newest phase in G.L.F.'s modernization program here, which already has amounted to more than $1 million in the past three years.

Mr. Smith said the new mill would raise "considerably" the mill's capacity to produce pelletized animal feeds.

"The new mill is designed to meet changing customer demands, which are gradually swinging away from bagged animal feeds to bulk shipments, particularly pelletized products," Mr. Smith said.

**STEAM ROLLING PLANT**

MINOT, N.D. — The Occident Elevator Co. began operation of a new $40,000 steam rolling plant here recently. The new plant will provide area livestock feeders with facilities for rolling their oats, barley and corn for feed.

## PLACEMENTS FOR SUPPLY FLOCKS INCREASE

**WASHINGTON — Domestic placements of pullet chicks for broiler hatchery supply flocks by leading primary breeders totaled 2,373,000 chicks during February, 1961, reports the U.S. Department of Agriculture.**

**This was 22% more than domestic placements of 1,947,000 chicks in February, 1960, and 5% more than February, 1959. Total placements (domestic plus exports) were reported at 2,743,000 compared to 2,114,000 a year earlier and 2,414,000 in February, 1959.**

**The placement data include pullet chicks sold during the month, plus the number of pullet chicks expected from eggs sold during the preceding month, states the USDA. The conversion from eggs to expected pullet chicks was made on the basis of 125 pullet chicks per case of hatching eggs sold.**

**The primary breeders included in this report account for a very large percentage of total supply of replacement pullets for broiler hatchery supply flocks.**

**Sales of replacement pullets by these breeders provide an indication of the potential number of pullets available for addition to hatchery egg supply flocks several months before the pullets will actually move into the flocks.**

# *$2 Million Egg Project Started in Denver Area*

HENDERSON, COLO.—A $2 million egg production enterprise which eventually will have 250,000 caged hens laying about 180,000 eggs daily is taking shape gradually on a 50-acre site near this Denver suburb.

Two 3,000-hen houses have been completed and layers are being placed in them by Rocky Mountain Egg Co. Further construction is in the planning stages. Robert Schafroth, one of three partners in the new company, said about two years will be required for the project to reach maximum production. Then, if all goes well, a similar egg producing center may be built five miles east of Boulder, Colo.

Mr. Schafroth is in construction. Other partners are Ray Tittel, former Rye, Colo., and Great Bend, Kansas, poultryman, and Warren Bowker, Litchfield, Kansas, oilman and wheat farmer.

The partners said they expect to have 48,000 hens in 16 houses in production by Sept. 1, 1961, to supply eggs for the Denver area. The completed project will include 80 prefabricated layer houses, each 304 ft. long. The colony cage system is being used, 40 hens to a colony.

Rocky Mountain Egg Co. will market fertilizer as well as fresh AA eggs. Every 14 months each house will be cleaned out; the hens consigned to a soup factory, and the house sterilized and restocked.

"We spent 18 months researching this business," Mr. Schafroth said, "and it is good management that determines success or failure. The little guy is gone, because he can't compete in volume or operation efficiency."

Mr. Schafroth said that fact that Colorado imports more than half the eggs it consumes was a major factor in forming the company. The firm will be able to supply a steady flow of fresh eggs without absorbing the cost of shipping eggs into Colorado from surrounding states.

# 30,000-Head Feedlot

BURLINGTON, COLO.—Construction should begin here shortly on a new publicly-owned, locally-managed cattle feedlot which will have an ultimate capacity of 30,000 head.

This was announced by E. A. Cannady of Associated Brokers, Inc., Denver, the principal underwriter of the project and of the basic operating company, Custom Feeders, Inc.

Mr. Cannady said the feedlot is the first in Colorado to be financed by non-assessable common stock, available only to Colorado residents.

Mr. Cannady said the company will custom feed cattle for ranchers and farmers in the area, but will keep the lot at an efficient capacity with cattle owned by the firm.

Robert L. Montgomery, a native of the Sterling, Colo., area, will be the corporation's president and resident manager.

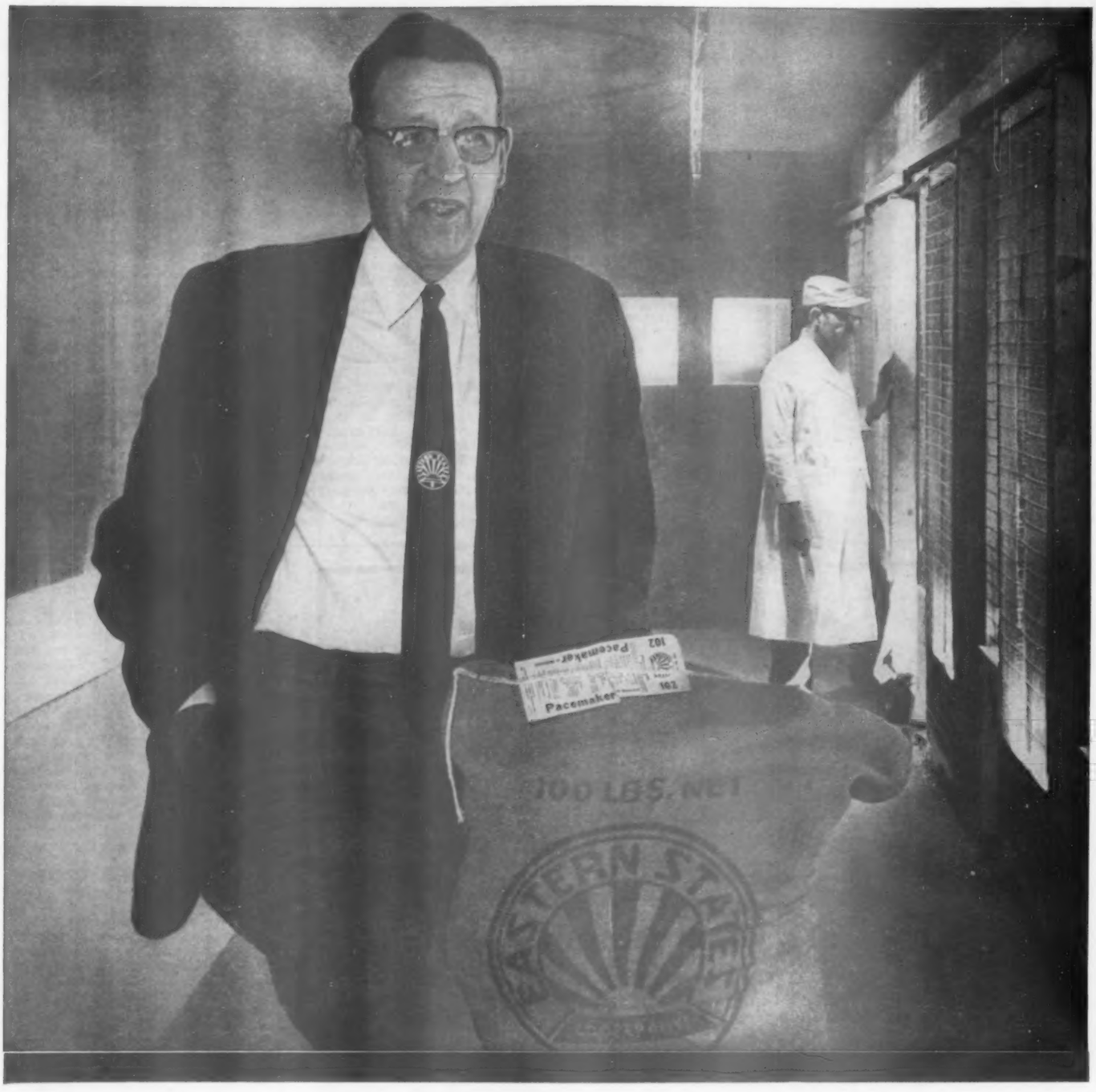
**OREGON CONVENTION—These photos show some of the persons at the recent Oregon Feed & Seed Dealers Assn. convention held in Portland. The first photo, left to right, shows Jerry Fielder and Bob Taylor, Dixon (Cal.) Dryer; John Alexander, Alexander & Co., Portland, and Harry Schrenk, Irving Feed & Seed, Eugene.**

**In the second photo are Joe McCarthy, Joe McCarthy Co., Portland, and Hal Hardin, convention program chairman, Willis Small Feed Co., Eugene.**

**In the third picture are Jack Crook, Chase Bag, Portland (left), and Bill Stoll, H. J. Stoll & Sons, Portland.**

**A. J. McFarlane (left), Fisher Flouring Mills, Seattle, is pictured in the fourth photo with John Wilson, Washington State Feed Assn., Seattle.**

**The last photo shows Vern Eilers, Albers Milling Co., Portland; Jack Gelder, Albers, Klamath Falls, and Larry Sohrweid, Albers, Portland.**

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# *High Energy Diets Offer Means of Increasing Egg Size, Studies Indicate*

By ROGER BERGLUND
Feedstuffs Managing Editor

WASHINGTON — The use of unusually high energy diets for pullets during early production offers a means of increasing egg size.

This was indicated from University of Maryland research reported at the Maryland Nutrition Conference in Washington, D.C.

Dr. G. F. Combs and Dr. N. V. Helbacka reported on several aspects of feeding research with layers. Summaries of some of the reports follow. Certain aspects of the work also were reviewed in the March 18 issue of Feedstuffs.

**CORN OIL, ENERGY INTAKE AND EGG SIZE**—Dr. G. F. Combs presented considerable information which indicates that the use of unusually high energy diets during early production offers a means of increasing egg size.

He cited previous work and also told of a study conducted in an attempt to increase egg size of pullets by addition of fat during the first few weeks of egg production. Egg size increased progressively with time when high corn oil rations were fed, and the difference would approach an ounce more per dozen during the early period of production.

Dr. Combs also cited data indicating that the effect of corn oil on egg size is due to its role in increasing nutrient intake rather than to a factor present in the corn oil per se. It seems probable that this effect is a direct function of Calorie intake.

The feed contained 10% added fat.

Dr. Combs, in commenting on the results with higher energy feeds, said that he has felt that part of the effect of restricted feed in pullet rearing on egg size may be a result of increased energy when birds are housed and go on a higher energy diet.

**EGG SHELL THICKNESS**—Raising calcium levels above the NRC requirements improved shell quality with no detrimental effects on production or any of the egg quality factors studied, said Dr. N. V. Helbacka of Maryland. He reviewed 1959-60 studies which showed eggs laid by hens receiving 3.75% calcium had significantly thicker shells than eggs from certain other treatments.

Current 1960-61 studies are designed to determine effects of calcium and phosphorus on shell quality. Calcium levels utilized were 2.25, 3.00, 3.75 and 4.50%, with 0.5 and 0.7% phosphorus. So far, the pattern with the calcium levels is the same as last year. Birds on the higher phosphorus levels produced eggs with thicker shells, although the breaking strength pattern appears somewhat different.

**CALCIUM LEVEL**—An additional report by Dr. G. F. Combs on calcium studies noted that when calcium level was varied from 2.27 to 3.66% in the mash, and both oyster shell and calcite grit were provided free choice, the higher levels of calcium did not adversely affect egg production, feed per dozen eggs or daily energy intake, while a marked improvement in shell quality was obtained.

He pointed out that these rations contained 1.25% added fat in order to prevent dustiness. This apparently was satisfactory even though as much as 8% ground limestone was used in some of the mash feeds.

If all of the calcium consumed had been present in the mash, the total calcium per cent would have been 4.4% for the lowest level, 5.39% for the intermediate level and 5.54% for the highest level of calcium fed.

The results are in agreement with other recent studies showing that high producing hens require considerably higher levels of calcium than 2.25% in the total ration.

Dr. Combs added that the total percentages of calcium consumed, when expressed as a function of total feed, cannot be considered as satisfactory indicators of the hens' requirement since the calcium supplied as calcite grit or oyster shell was probably less available than it would have been had it been supplied in finely ground form.

He pointed out again that since the need for calcium, expressed as a per cent of the diet, is affected primarily by rate of egg production and factors which determine feed consumption, a rule of thumb equation for approximating the calcium requirement for laying hens has been devised. (Feedstuffs, Oct. 1 and March 18.) This is based on the assumption that about 2.25 times as much feed calcium should be ingested as is excreted in the eggs. Per cent of calcium needed in a particular feed is readily estimated from egg weight and feed conversion data. Laying hens consuming 3.0, 3.5, 4.0, 4.5, 5.0 and 5.5 lb. of feed per dozen 2-oz. eggs would need approximately 4.0, 3.4, 3.0, 2.65, 2.4 and 2.2% calcium in their feed, respectively.

**ADEQUACY OF LAYING RATIONS**—A current study at Maryland involves supplementation of simplified practical-type rations with additional minerals and vitamins, and with egg yolk solids, in an effort to prevent any possible depletion of nutrients as the laying year progresses.

Dr. Combs said the question of whether hens deplete themselves might be raised, and this year in a "shotgun" approach, the researchers are trying additional vitamins not normally used and added minerals. Also, one ration has 15% egg yolk solids to supply any depleted nutrients. It is hoped that efforts like this will help maintain egg production.

**CONSTANT VS. INCREASED LIGHT**—During the past two years and at present, laying hens at Maryland have been reared normally without light restriction, and at time of housing, some have been placed on a 13-hour constant light day, while others are lighted 13 hours at the start with 30 minutes of light added cumulatively every two weeks. Both series receive an increasing amount of light after mid-March, when the normal-day length becomes greater than 13 hours. In both completed trials, as well as in the first part of the present study, hens on the increased lighting schedule have laid more eggs during the first part of the laying year. Body weight gains have also been greater.

Dr. Combs said that for layers one might consider increasing the light even though a special lighting program was not followed during the rearing period.

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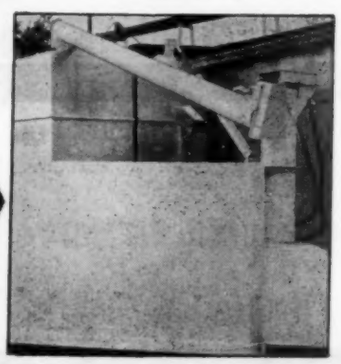

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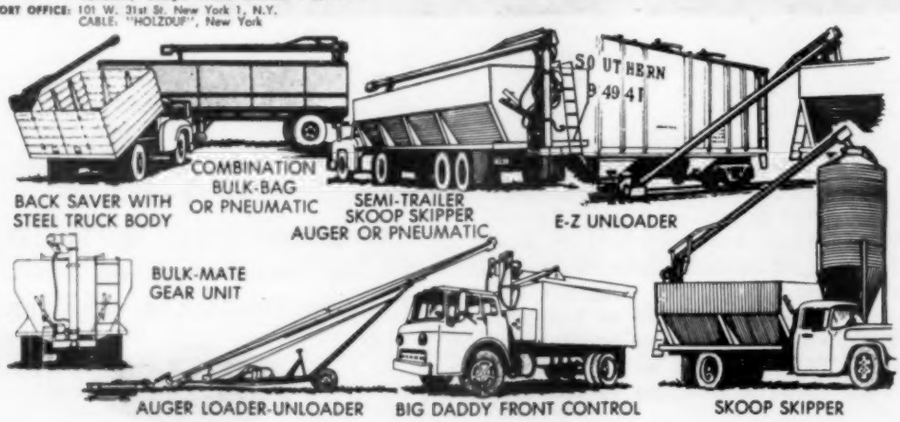


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# *Maryland Research Seen as Breakthrough in Bloat Battle*

WASHINGTON—Experimental bloat research conducted at the University of Maryland has been described as a breakthrough in the battle against bloat of cattle and sheep.

Working on the theory that bloat represents an inhibition of the belching mechanism through nervous control, Dr. E. C. Leffel and R. J. Komarek of the Maryland animal husbandry department used drugs to produce bloat in 42 animals. The research was described at the Maryland Nutrition Conference in Washington. (Feedstuffs, March 18.)

It is known, Dr. Leffel noted, that bloat often varies in its degree. There are slight bloat, moderate bloat and severe bloat. These variations suggest that perhaps they are due to variations in the amount of stimulation or inhibition to which the belching mechanism, or the eructation mechanism, may be subject. Therefore, there is a good possibility that bloat represents an inhibition of the belching mechanism.

Dr. Leffel used one drug, called adrenalin, or epinephrine, which stimulates the sympathetic nervous system. He used another drug, atropine, which inhibits the parasympathetic nervous system. These two nervous systems are called the autonomic nervous system. Assuming that eructation is under control of the autonomic nervous system, he gave the animals simultaneous muscular injections of atropine and adrenalin. In 42 cases involving both sheep and cattle, he was able to produce bloat with these injections.

From the results of this work he became interested in the possibility that something in bloat producing forages, such as alfalfa, would give the same action that he got with adrenalin, or with atropine, or with both. He thought perhaps that tyrosine, which is an amino acid occurring in alfalfa and which may be readily decarboxylated in the rumen to produce tyramine, might be one of the factors. Dropping the use of adrenalin, he fed tyrosine to sheep and injected atropine. The sheep bloated just as they did when injected with atropine and adrenalin.

Since tyrosine produces tyramine, which has an effect similar to adrenalin, it was further theorized that extracts made from alfalfa might have effects similar to those of atropine. It is known that alfalfa contains certain alkaloids, and that alfalfa extracts containing alkaloids might give an atropine-like effect. Using alfalfa extracts with adrenalin, he again succeeded in bloating the animals.

"We now have good indications," Dr. Leffel says, "that there are compounds naturally occurring in green legumes which will have the same effects in the animals as the drugs which we injected."

From this experiment, Dr. Leffel points out, he is not recommending any cure for bloat.

However, the work may lead to control measures, possibly involving use of drugs.

The report on bloat was one of several interesting reports on ruminant and swine feeding presented at the Maryland conference. Summaries of some of the other reports follow. (Also see earlier summaries in Feedstuffs of March 18.)

**FEED QUALITY AND RUMEN VOLATILE ACIDS**—Dr. Leffel also reported on further work in this area. The possibility remains, he said, that the increased propionate production could at least partially account for superior performance of pellet-fed animals.

Subsequent work with lower levels of pellet feeding showed that total rumen acids or percent propionates were not necessarily higher than in animals fed long hay. The results suggest that the quantity fed as well as the composition or nature of what is fed may influence the production of volatile acids in the rumen.

Dr. Leffel said that studies of effects of roughage preparation and quantity fed have been initiated. Data on high and low pellets, high and low meal, and high and low hay indicate that high pellet and high meal diets result in appreciably higher level of total acids, a slightly higher per cent propionate and a high concentration of rumen propionate. Differences were not as great as would have been expected from earlier observations. However, this is the first study deliberately designed to determine effects of quantities fed.

**DAIRY FEEDING** — Dairy cattle have a minimum requirement for forage in most practical feeding situations. Above this requirement there is a wide range of possible substitutions of forage and grains, said Dr. R. F. Davis of the University of Maryland. A minimum of about 10-12 lb. of forage per day is suggested. In Maryland work where 80, 40 and 20% of the estimated net energy of the ration was supplied from concentrates, production and total energy consumption were greater on rations with the highest amounts of concentrates.

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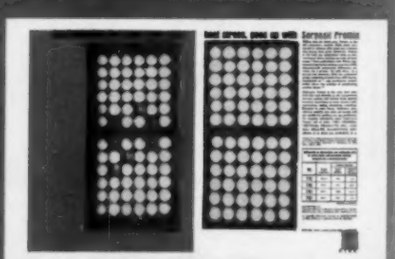

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Current information indicates that if cows are in good flesh at the end of lactation, little or no additional milk will be obtained by feeding them to gain more than 40 to 60 lb. during the six weeks prior to calving.

Heavy feeding after the last half of a lactation and particularly after five months of pregnancy will provide less response than in early lactation, said Dr. Davis. It appears that most economical use of feed may be achieved by feeding liberally right after calving and giving the cow every opportunity to reach her capacity. After peak production is reached and an economical feeding level established, it should be maintained until production begins to drop.

Mature ruminants have shown little or no response to feeding in several allotments per day. The economy of this practice must be determined in individual situations.

**NITROGEN UTILIZATION BY LACTATING COWS**—Nitrogen content of the rations, type of forage fed, digestible dry matter intake per unit of body weight and level of grain concentrates are some of the feed factors affecting nitrogen utilization that have been studied at the Ohio Experiment Station at Wooster, according to Dr. H. R. Conrad.

Experiments carried out since the classical studies of protein requirements for milking cows suggest that the general character of the requirements will not be changed much. However, the data discussed point out that efficient use of nitrogen goes beyond meeting the protein requirements—because, as the data have shown, with an excess of protein to meet requirements, the presence or absence of cereal grain respectively augmented or diminished the efficiency of nitrogen utilization for productive purposes. Again, in the presence of more than adequate protein, it was shown that nitrogen efficiency rose sharply with increased digestible dry matter intake. On the other hand, restricting digestible dry matter intake resulted in a new loss of nitrogen from the cows' bodies.

All principal sources of nitrogen studied were used efficiently up to 15% total protein equivalent. It seems particularly noteworthy, said Dr. Conrad, that efficiency fell off sharply at higher levels of protein when legume grass silage was fed. In contrast, fresh-cut forage was used most efficiently at the highest protein content.

It was noted that grain feeding may have two separate effects on nitrogen utilization, depending on type and quantity of roughage consumed. This may be done through adding to the energy increment by augmenting the dry matter consumption. Secondly, it may be done by enhancing nitrogen utilization if the cows are already consuming optimum quantities of roughage energy.

**FACTORS INFLUENCING SALIVARY SECRETION IN THE RUMINANT** — Considerable interest in the importance of the voluminous salivary secretion of ruminants has been shown, said W. E. Stewart of Maryland. He went on to review information from studies of the rate of secretion and of the composition of saliva.

The importance in rumen function was noted, and the current interest is justified, the scientist said.

**MINERALS FOR PIGS**—Information on iron, copper and zinc in swine nutrition was presented by Dr. H. D. Wallace of the University of Florida. (Also see March 18 story on copper.)

Recent studies have shown the efficiency of using injectable iron compounds. Dr. Wallace said that the iron polysaccharide complexes have produced the greatest hematological response. A single injection of 100 mg. of iron between the third and fifth day of age appears adequate under most management systems.

It appears that 50 ppm of zinc, in any of the commonly available forms, would be adequate when used with properly balanced rations.

Dr. Wallace presented these suggestions on requirements and tolerances: Iron — requirement, 50 - 100 ppm; tolerance, not set. Copper—requirement, 5-10 ppm; tolerance 125-150 ppm. Zinc—requirement, 50-100 ppm; tolerance, 1,000 ppm.

**FEEDING HOGS FOR MEATIER PORK**—Most reports agree that a restriction of pig diets to some 80% of a full feed intake results in the most efficient gains and significant improvements in carcass value. A more practical method of controlling TDN intake, said Dr. H. D. Wallace of Florida, is the "dilution technique." Florida data revealed that the feeding of fibrous ground snapped corn slowed gains and decreased feed utilization but improved loin eye area, per cent lean cuts and carcass length.

However, increased labor to control intake by hand feeding and other economic aspects related to slower gains have prevented general acceptance of these procedures.

**PESTICIDE RESIDUES** — Information on pesticide residues in milk was reviewed by Dr. R. L. King of Maryland. In this connection, he noted that the subject of approved tolerances for insecticides in milk is controversial. The only petition ever submitted was for 0.25 ppm of methoxychlor. This was turned down, not on the basis of the scientific evidence presented, but for evasive type arguments based on the peculiar place of milk in the diet—it may provide the entire diet for infants and certain other classes of people.

A recent report by the National Research Council may have some influence in changing the current policy. The position of FDA in allowing only zero tolerances is criticized as being not scientifically justified. The statement recognizes that in certain cases, small residues in milk may be unavoidable, even under the best of production practices.

**AVAILABILITY OF WATER AND CREEP FEED CONSUMPTION BY PIGS**—Dr. E. P. Young of Maryland said that observations have been made on a number of factors during the first five weeks of lactation. Under conditions of the trials, there did not appear to be any association between availability of water in the creep area and such factors as pig growth, sow feed consumption and five-week weaning weights. In some instances earlier consumption of creep feed was observed when water was available.

It was noted that the pigs consumed water at an earlier age than they began to eat creep feed. This behavior, Dr. Young said, provides for medication or supplying soluble supplements when pigs are not yet consuming supplemental feed.

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# Nutrient Levels for Turkeys Suggested

WASHINGTON—A Maryland Nutrition Conference review of turkey nutrition information included suggestions on nutrient levels in turkey rations.

The review, presented by Dr. R. D. Creek of the University of Maryland, was one of two papers dealing primarily with turkey feeding.

Dr. W. C. Supplee of Maryland discussed factors influencing bone development in poults.

Summaries of some of the information presented follow. Other parts of the discussions were summarized in the March 18 issue of Feedstuffs.

**TURKEY NUTRITION**—Information on several aspects of practical turkey nutrition was presented by Dr. R. D. Creek of Maryland. (Also see story in March 18 Feedstuffs.)

Table 1 contains suggested nutrient levels which have proven successful in use at Maryland. These estimates include sufficient levels of nutrients believed to meet the birds' needs plus safety margins to compensate for instability and variation in natural nutrient content of ingredients.

Under ordinary circumstances, Dr. Creek said, using soybean, fish and meat meals as sources of protein, and using the C/P ratios in Table 1, the needs for the non-essential and all of the essential amino acids except lysine and methionine will be met. Results of a Maryland study of methionine and lysine needs of poults of various ages are shown in Table 2.

**HOCK DISORDERS IN POULTS**—Studies of factors involved in producing perosis-like conditions in the poults are being continued at Maryland, said Dr. W. C. Supplee. For comparative purposes, they have fed diets deficient in choline, manganese, niacin, zinc, biotin and vitamin E and had no difficulty producing leg disorders except with the diets containing no added biotin or vitamin E.

In view of the lack of any signs of deficiency in poults fed a highly purified, biotin-free diet (unless raw egg white was added), it seems highly unlikely that biotin deficiency would be involved in hock disorders encountered with practical rations. In eight trials, it has not been possible to find evidence that vitamin E deficiency is concerned in production of enlarged hock disorder.

Major features of the leg conditions seen at Maryland, whether from deficiencies of choline, manganese, niacin or zinc, have been enlargement of the hocks and bowed or "knock-kneed" legs. "Slipped tendon" seems to be the result of altered hock configuration rather than the cause of it. Actual slipping of the tendon has been seen most frequently in choline deficiency, with manganese, niacin and zinc deficient poults showing progressively less of the condition.

**CALCIUM-PHOSPHORUS RELATIONSHIPS IN POULT DIETS**—Dr. W. C. Supplee of Maryland told of research results indicating quite clearly that 1.5% calcium is adequate for growth and bone formation in poults when the phosphorus level is adequate. Of particular significance also was evidence that excess calcium is a considerable hazard where dietary phosphorus is submarginal. Results do not clearly show that excess calcium constitutes an undesirable stress over the whole spectrum of phosphorus intakes, but it seems reasonable to assume so pending more definite information to the contrary.

# Sales Manager Named

EL MONTE, CAL.—The appointment of Elwood N. Moon as general sales manager has been announced by Clayton Mfg. Co., El Monte. He assumes sales administrative responsibility for Clayton's steam generator, steam cleaner and dynamometer divisions. J. A. Cortright will continue as vice president, sales. In retiring from administrative duties, he will continue to manage special promotions of Clayton products to management of selected industries.

# Eldon Loats Named To Cyanamid Ag Post

NEW YORK—Eldon F. Loats has been appointed district manager for American Cyanamid Co.'s agricultural division, announced E. H. Smythe, division director of marketing. Mr. Loats will report to C. W. Cook, southeast regional manager, and will be in charge of the Charlotte animal industry district.

Prior to this appointment, Mr. Loats was resident manager for the agricultural division in Hawaii and had sales responsibilities for all agricultural products.

During the nine years he has been with Cyanamid, Mr. Loats has held several administrative positions. He served as administrative assistant to the division's assistant general manager in 1958, and before that was manager of sales training.

**TABLE 1. Suggested Nutrient Levels in Poultry Turkey Rations**

| Nutrient | 0-6 Wk. | 6-12 Wk. | 12-18 Wk. | 18-24 Wk. | Breeders |
|---|---|---|---|---|---|
| Metabolizable energy, cal./lb. | 1,200–1,350 | 1,200–1,350 | 1,300–1,430 | 1,350–1,500 | 1,200–1,300 |
| Productive energy, cal./lb. | 850–950 | 850–950 | 900–1,000 | 950–1,050 | 850–950 |
| Crude protein, % | 28–30 | 21–23 | 17–18 | 14–16 | 15–18 |
| Calorie protein ratios, Met. | 43–46 | 57–60 | 71–74 | 85–100 | 78 |
| Calorie protein ratios, Prod. | 30–32 | 40–42 | 50–52 | 60–70 | 55 |
| Calcium, % | 1.5 | 1.5 | 1.1 | 1.1 | 2.25 |
| Phosphorus, available, %* | 0.5–0.6 | 0.5–0.6 | 0.45 | 0.45 | 0.5 |
| Manganese, mg./lb. added | 25–30 | 25–30 | 25–30 | 25–30 | 25–30 |
| Salt, iodized, % | 0.4–0.5 | 0.4–0.5 | 0.4–0.5 | 0.4–0.5 | 0.3–0.50 |
| Zinc, mg./lb. added | 25 | 25 | 25 | 25 | 25 |
| Vitamin A, I.U./lb. | 4,000–5,000 | 4,000–5,000 | 4,000–5,000 | 3,500–4,500 | 4,500–5,000 |
| Vitamin $D_3$, I.C.U./lb. | 600 | 600 | 600 | 600 | 600 |
| Riboflavin, mg./lb. | 2–3 | 2–3 | 2–3 | 2–3 | 2–3 |
| Niacin, mg./lb. | 28–35 | 24–30 | 24–30 | 24–30 | 15–20 |
| Pantothenic acid, mg./lb. | 6–8 | 6–8 | 6–8 | 5–7 | 8–10 |
| Choline, mg./lb. | 850–950 | 850–950 | 800–900 | 800–900 | 500–600 |
| Vitamin $B_{12}$, mcg./lb. | 3–4 | 3–4 | 2–3 | 2–3 | 3–4 |
| Folic acid, mg./lb. | 0.5 | .45 | .4 | .35 | 0.4 |
| Vitamin E, I.U./lb. added | 2.5–5.0 | 2.5–5.0 | 2.5–5.0 | 2.5–5.0 | 5.0–10.0 |
| Vitamin K, mg./lb.† | 0.8 | 0.8 | 0.8 | 0.8 | 0.8 |
| Antibiotics‡ | + | + | + | + | + |
| Antioxidants‡ | + | + | + | + | + |
| Unidentified factors | ++ | + | ? | ? | ++ |
| Medication** | ? | ? | ? | ? | ? |

*Available phosphorus is defined as 100% of that from inorganic sources or meat products plus 30% of that found in plants.

†Added as menadione or menadione sodium bisulfite.

‡Add at manufacturers recommended level.

**Medication to control coccidiosis and blackhead may be necessary. Consult local veterinary or diagnostic laboratory.

**TABLE 2. Experimentally Determined Lysine and Methionine Requirements for White Thompson Poults.***

| Period Wk. | Lysine Gm./Therm ME | Lysine %/Therm ME per lb. | Methionine Gm./Therm ME | Methionine %/Therm ME per lb. |
|---|---|---|---|---|
| 0-3 | 5.46 | 1.20 | 2.03 | 0.45 |
| 3-6 | 4.68 | 1.04 | 1.74 | 0.38 |
| 6-9 | 4.02 | 0.88 | 1.49 | 0.33 |
| 9-12 | 3.39 | 0.75 | 1.26 | 0.28 |
| 12-15 | 2.95 | 0.66 | 1.09 | 0.24 |
| 15-18 | 2.55 | 0.57 | 0.95 | 0.21 |

*0.7% methionine and 3.25% lysine used for 50% protein soybean meal. The cystine requirement was calculated and assumed adequate at all stages. Twining et al.

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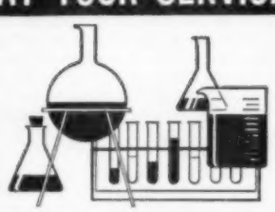
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# Amino Acid Requirement Best Stated as Function of Energy

WASHINGTON—For practical broiler feed formulation, the requirement for sulphur amino acids can be stated best as a function of the energy content of the ration. This was one of the points stated by Dr. G. F. Combs of the University of Maryland in a report at the Maryland Nutrition Conference on broiler feeding studies.

Dr. Combs and other speakers covered various aspects of the nutrition of broilers and other poultry.

Summaries of some of the research reports follow. An earlier summary of broiler research findings was presented in the March 18 issue of Feedstuffs.

**PROTEIN LEVEL AND SULPHUR AMINO ACID REQUIREMENTS**—Since many practical feeds may contain more total protein than is needed and at the same time be sub-optimal or marginal in one or more amino acids, studies were conducted with practical-type broiler rations to determine if the sulphur amino acid requirement might best be expressed as 1% of the total protein or directly as a function of energy content. Dr. Combs cited extensive research results in this area, and he said it appears clear that the amino acid requirement cannot be expressed properly as per cent of protein for rations containing excessive levels of protein.

For practical formulation, he said, it seems that the requirement for sulphur amino acids can be stated best as a function of the energy content of the ration.

Suggested essential amino acid-energy concentrations for use in broiler feed formulations are given in Table 1.

**TABLE 1. Suggested Minimum Amino Acid/Energy Concentrations for Use in Formulation of Broiler Feeds for Chickens**

| Amino acid | Per cent amino acids / Therms M. E./lb. | | Grams of amino acid per Therm of M. E. | |
|---|---|---|---|---|
| | Starter (0-4½ wk.) | Finisher (after 4½ wk.) | Starter (0-4½ wk.) | Finisher (after 4½ wk.) |
| Methionine + cystine | 0.54 | 0.50 | 2.45 | 2.25 |
| Methionine | 0.29 | 0.26 | 1.30 | 1.20 |
| Lysine | 0.75 | 0.65 | 3.40 | 2.95 |
| Tryptophan | 0.15 | 0.13 | 0.70 | 0.60 |
| Glycine | 0.75 | 0.65 | 3.40 | 2.95 |
| Arginine | 0.80 | 0.70 | 3.65 | 3.15 |
| Valine | 0.60 | 0.52 | 2.75 | 2.35 |
| Phenylalanine + tyrosine | 1.09 | 0.94 | 4.95 | 4.25 |
| Phenylalanine | 0.55 | 0.47 | 2.50 | 2.13 |
| Leucine | 1.09 | 0.94 | 4.95 | 4.25 |
| Isoleucine | 0.47 | 0.41 | 2.15 | 1.85 |
| Threonine | 0.47 | 0.41 | 2.15 | 1.85 |
| Histidine | 0.24 | 0.21 | 1.10 | 0.95 |

Note: To obtain corresponding values on the basis of productive energy, multiply by 1.43.

**PELLETING AND FAT LEVEL**—Dr. G. F. Combs of Maryland reported on further research on pelleting and fat level of broiler rations. Pelleting a low-fat feed improves both growth rate and feed conversion. Pelleting feeds containing as much as 10% added fat also improved growth rate and feed conversion but to a lesser extent. Increasing fat from 2.5 to 10% in mash feeds improved both growth rate and feed conversion but did not materially affect growth when the feeds were pelleted. Even with relatively high energy feeds, pelleting improved growth rate and feed conversion.

On the other hand, said Dr. Combs, use of fat above levels of 2 to 3% in pelleted broiler feeds must be justified entirely on the basis of relative cost of energy. Where feeds cannot be pelleted, use of fat levels up to 10% can be expected to improve results, although further improvement would be expected from pelleting. These observations further indicate that use of high fat levels, as well as pelleting, improves growth rate of broilers primarily as a result of increased nutrient intake.

**AMBIENT TEMPERATURE STUDIES**—A report on ambient temperature studies with broilers was made by Dr. G. F. Combs. Results indicated that ambient temperatures must average less than 50° in broiler houses after 4½ weeks of age before low temperature will affect adversely growth rate or feed efficiency.

Dr. Combs noted some differences in feed conversion between groups in trials ended in September and in January. Citing certain conditions, he pointed out that it appears that some factor other than ambient temperature was responsible for 10% poorer feed efficiency during the winter peri-

(Turn to AMINO ACID, page 97)


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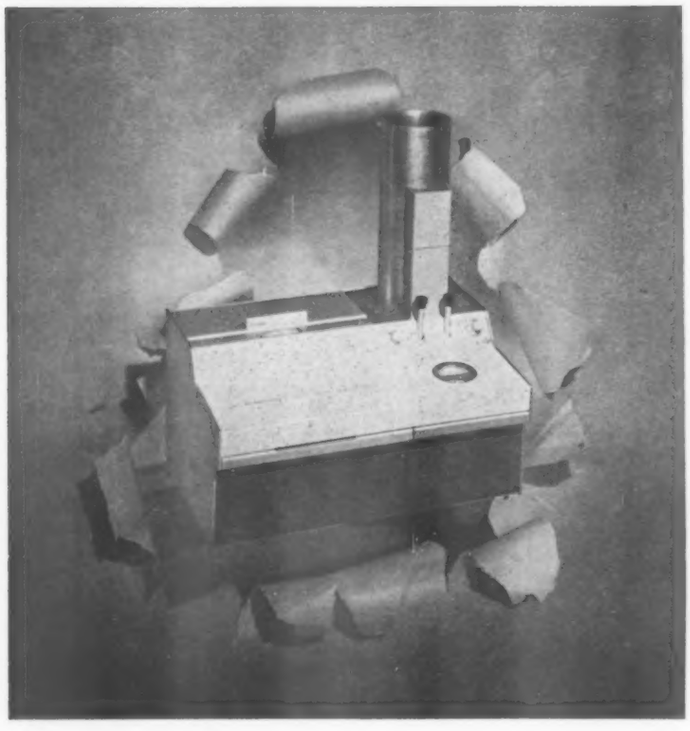

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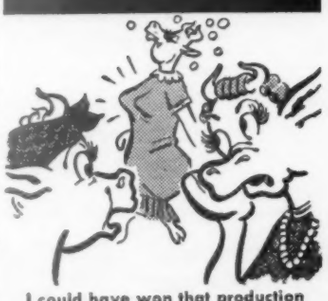

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# New Cattle Trend in Oklahoma: Keep Feeders, Finish for Market

By FRED E. TUNKS
Feedstuffs Staff

STILLWATER, OKLA.—Many factors—most of them a matter of economic good sense—are turning the interests of a substantial portion of Oklahoma's beef industry from feeder cattle to fed cattle.

Dr. L. S. Pope

What are these factors? Dr. L. S. Pope of Oklahoma State University's department of animal husbandry offered many answers to the question of why more cattle are being fattened in the state when it was his turn during the ruminant session of the 12th annual Oklahoma Feed Industry Conference and Workshop this month at Stillwater.

Here are the reasons he mentioned:

—To sell cheap pasture and roughage gains at a higher price.

(In some parts of the state, particularly in north central Oklahoma, this winter has been a good one for winter wheat pasture. It's a common practice for Oklahoma beef producers to graze their animals on wheat growth from early October through the middle of March. Tests have shown that this grazing doesn't hurt the wheat stand.)

—To take advantage of cheap grains. Dr. Pope and others attending the conference noted that very favorable growing conditions have produced better than normal crops of milo and barley. The increased availability of these grains has meant lower prices for concentrate feeds.

—To improve the market value of lower quality cattle.

—To speculate on a better cattle market. Cattlemen are now receiving about the same price per pound for fat cattle as for feeders.

And there's at least one other factor that may be a reason why cattle fattening is expanding in Oklahoma. This factor was explained in a non-program conversation by Gene Ellis, owner of Process Engineering, Red Rock, Okla., firm which is helping cattlemen set up small custom feedlots in north central Oklahoma and elsewhere.

Mr. Ellis says cattlemen who once produced only feeder cattle have learned they can make a profit by growing beef for Oklahoma consumption. Instead of shipping feeders to the Corn Belt some Oklahomans are hauling in corn from western Kansas for their own feedlots.

Springing up here and there in north central Oklahoma are small custom feedlots of 100-200 head. Mr. Ellis said most of the state's larger feedlots are in northwestern Oklahoma.

Some of the smaller custom lots have storage capacity for 10-12,000 bu. milo and barley—perhaps a little corn. Feed processing equipment usually consists of a small hammermill and a small roller which operate at 3 tons an hour. Feed is dumped from overhead bulk bins into a truck, trailer or wagon partially loaded with sorghum ensilage. Ingredients include a commercial supplement and soybean oil meal.

Why cattle are fattened in Oklahoma was only the beginning of Dr. Pope's thorough discussion of the cattle industry in the southwestern state.

### Other Industry Aspects

He compared small feedlots with large commercial operations, listed rules of thumb for fattening cattle, talked about the effect of age on requirements of fattening cattle and discussed the disadvantages and advantages of "all-concentrate" fattening rations.

Dr. Pope warned listeners that before anyone begins thinking about fattening cattle he should realize that profit margins from fat cattle are usually less than for feeder cattle (in Oklahoma, anyway). A feedlot operation requires more equipment, considerable know-how and experience, good knowledge of nutrient requirements, knowledge of market demands and cycles and adequate financial backing. And the feedlot operation involves a higher risk.

### High-Concentrate Rations

Dr. Pope said all- (or high-) concentrate fattening rations have become a topic of intense interest wherever beef producers gather because: (1) Grains are becoming cheaper, (2) costs of processing roughage are high and (3) concentrates are relatively easy to handle, process and feed.

But the high-concentrate road is not without bumps. Here are the "special considerations" which Dr. Pope said the feeder must consider before pursuing an inclination toward the feeding of high-concentrate rations:

1. Barley and oats, steam rolled, are fibrous enough to supply necessary bulk in fattening rations—but milo and corn may not be.
2. Steam rolling may be essential to add bulkiness to grains. Dr. Pope said fineness of grinding grains still is a problem. "Steam rolling grains may not increase their value in conventional rations," he noted. "There is much research interest in the effect of moist heat on improving feeding value of grains."
3. Calcium may become decidedly deficient. So may trace minerals and possibly total minerals.
4. Vitamin A "must" be added.
5. Founder may become a severe problem. Cattle must have feed before them at all times and they must be gradually worked up to a full feed of concentrates.

Dr. Pope reported that none of the tests run at the Ft. Reno experiment station of the university showed that a ratio of concentrate to roughage higher than 2 to 1 increases daily gain per pound of feed.

He said the feeder of only a few cattle may choose to feed a lower concentrate-roughage ratio so that he can market more roughage. "Big feeders tend to use 80% plus concentrate rations," he said. "This means less feed to handle and lower processing and roughage storing costs. Besides, lately, grain has been almost as cheap as roughage."

### Small vs. Large

In his comparison of small vs. large commercial cattle feeding operations, Dr. Pope said the small feeder (less than 50 head) can: (1) Pro-

(Turn to OKLAHOMA, page 99)


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While some have started off well, they have failed to live up to their advance billing. Not one has solved the coccidiosis problem.

Unfortunately, there is *still* no such thing as a perfect coccidiostat. We don't have one . . . and neither does anyone else.

But here's a point worth noting: While many heralded coccidiostats have come and faded away, *nfz* and *bifuran* have continued in demand for replacement birds. In fact, use of these two products in replacement feeds is growing.

**No registration headaches** — One reason behind the increasing demand for *nfz* and *bifuran* is the fact that you can use either of these coccidiostats *without registration problems.* They are not new drugs and are cleared for use in combination with almost all commonly used additives.

But a more basic reason is found in a recent survey in which feed manufacturers were asked, "What do you look for primarily in evaluating a coccidiostat for replacement birds?" The survey shows *nfz and bifuran come closest to providing the benefits wanted.*

Considered by far the most important feature of a coccidiostat for replacement birds is the building of "lifetime immunity" . . . followed by the "safety" of the drug. *nfz* and *bifuran* deliver both of these major benefits . . . plus many additional features that distinguish them from other coccidiostats. Following is the complete *nfz* and *bifuran* protective package:

**Lifetime immunity** to coccidiosis by housing time... that's a "must" for replacement birds. Both *nfz* and *bifuran* allow lasting immunity development, the natural way—by permitting a mild, controlled infection during the growing period.

**Safe, nontoxic** — Neither *nfz* nor *bifuran* has harmful effects on internal egg quality, shell texture, hatchability or fertility. Unlike most other commonly used coccidiostats, *nfz* and *bifuran* can be safely fed to laying hens. Also, these two medications are nontoxic to livestock and pets.

**Control outbreaks** — You can raise the *nfz* or *bifuran* intake to the coccidiosis treatment level... safely... without bringing in another drug. This is not possible with some coccidiostats.

**Antibacterial** — In addition to aiding in the lifetime immunity process, *nfz* and *bifuran* knock out many secondary infections that can sap vitality, cause nonproductive runts and culls. They give you more than just coccidiosis protection.

**Effective against pullorum** — By increasing the *nfz* or *bifuran* level to 3 lbs. per ton of feed for 10 to 14 days, you can prevent mortality from pullorum. There's no need to come in with other drugs.

In the light of current registration headaches and confusion about coccidiostats, we wanted to remind you that perhaps *nfz* and *bifuran* can help solve problems for you. They are still doing the same effective job of controlling coccidiosis and allowing immunity they've always done.

For an *nfz-bifuran* reviewing session, get in touch with your Hess & Clark representative.

**Effective against necro in pigs**

While you have nfz or bifuran in your mill, here's another use for the same medication. nfz (at a level of 10 lbs. per ton of feed) and bifuran (at an 8-lb level) are effective, low-cost treatments for infectious necrotic enteritis in pigs. Self-fed to the entire herd for 5 to 7 days, these drugs prevent disease damage and allow the pigs to overcome the disease drag of necro.

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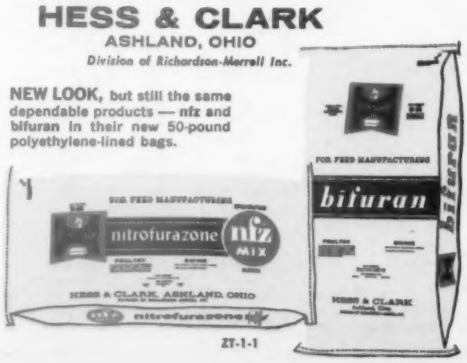



ZT-1-1

# Calcium Intake Level, Strain of Birds and Rate Of Egg Production All Influence Egg Shell Quality

**"Recent Idaho studies show that strain of birds and rate of egg production must be taken into account when considering the amount of calcium required in laying rations. This article summarizes further Idaho studies showing that increased content of laying rations is essential when fed to present day high-producing birds."**

By Prof. C. F. Petersen
University of Idaho

Production of eggs with sound, strong shells that will enable producers, egg processors, retailers and consumers to handle them efficiently and with a minimum of loss is one of the major problems of modern poultry management. It is estimated that as high as 5% of all eggs produced are lost either in production or handling because of weak, thin shells.

The problem has become of even greater concern under present-day operations with strains of higher egg production rate, kept for longer periods of time, and fed more efficient rations which result in less feed consumed per dozen eggs produced. A major shift and concentration of egg production in the southern states further increases the shell quality problem as birds are subjected to longer seasons of high temperature. It has been known for several years that an environmental temperature above 70° F. is detrimental to shell quality (Bennion and Warren (1), Miller et al. (2), Warren and Schnepel (3).) The total effect of all of these factors may result in shell quality becoming a problem of sufficient magnitude to necessitate disposal of a flock while it is still producing at a profitable rate.

The use of all-mash feeds, laying cages and the need for reducing the labor routine all suggest inclusion of the total calcium requirements in the laying mash. The ever-present shell quality problem and the inclusion of all the calcium in the ration has resulted in an increased use of calcium in laying rations by many poultrymen and feed processors.

Work at the Idaho Agricultural Experiment State in which it was shown that increased calcium intake resulted in improved shell quality was reported in Feedstuffs, April 30, 1960, (4) and later published in more detail (Petersen et al. (5)). Using a genetically poor shell quality strain, it was shown that shell quality was improved when the calcium intake was increased above the National Research Council recommended level of 2.25%. Increasing the calcium intake to 3.75% resulted in improved shell quality when the laying house temperature was maintained below 70° F. When the laying house temperature was maintained at 70-75°, improved shell quality was obtained with 4.50 to 5.25% calcium in the ration.

Although considerable interest has been shown in reevaluating the calcium needs for present-day production, very little information has appeared in the literature. In a recent study concerning the influence of vitamin C on shell quality, Thornton (6) fed laying hens calcium levels of 2.0, 2.5 and 3.0%. In the absence of vitamin C, the 2.5% level did not improve shell quality over the 2.0% level, whereas the 3.0% level resulted in marked improvement. In the presence of vitamin C, both 2.5 and 3.0% calcium resulted in marked and increasing improvement in shell thickness compared to the basal ration containing 2.0% calcium.

**1959-60 IDAHO CALCIUM STUDY**—Questions were raised concerning the earlier Idaho work relative to its application to feeding recommendations to strains of birds which were known to produce eggs with a much superior shell quality to the Idaho strain used. Would a strain of birds with good shell quality respond equal-

C. F. Petersen

**AUTHOR—Prof. Petersen's interest in research work at the University of Idaho, Moscow, has included studies of requirements for riboflavin, vitamin $B_{12}$, unidentified growth factors, calcium for egg production and energy requirements for egg production under varying laying house temperatures. He was employed by Albers Milling Co., Seattle and Bellingham, Wash., after graduating from college. Prof. Petersen joined the poultry department staff at the university in 1944 and two years later was awarded an M.S. degree with a major in poultry nutrition and agricultural chemistry.**

**TABLE 1. Experimental Diets Used in 1959-60 Study with Two Calcium Levels**

| Ingredient | Calcium level 2.25%* % | 3.75%* % |
|---|---|---|
| Wheat bran | 5.0 | 5.0 |
| Ground barley | 20.0 | 5.1 |
| Ground corn | 50.0 | 60.0 |
| Dehyd. alfalfa meal | 2.5 | 2.5 |
| H. fish meal | 2.0 | 2.0 |
| Meat scraps | 5.0 | 5.0 |
| Soybean meal (solvent) | 9.5 | 10.5 |
| Dicalcium phosphate | 1.0 | 1.0 |
| T. M. salt† | 0.5 | 0.5 |
| Dry vitamin A, D, Riboflavin‡ | 1.0 | 1.0 |
| Oyster shell flour | 3.5 | 7.4 |
| Calculated composition: | | |
| Energy (P.E. calories) | 890 | 890 |
| Per cent protein | 15.65 | 15.46 |
| Per cent fiber | 3.97 | 3.35 |
| Per cent phosphorus | 0.83 | 0.80 |
| Per cent calcium | 2.26 | 3.74 |

*30 ppm. of zinc was added to salt mix for lots which received zinc supplementation.

†Composition of trace mineral salt: Not less than 96% and not more than 98.9% NaCl; not less than 0.94% Mn, 0.16% Fe, 0.33% Cu, 0.01% Co, 0.007% I, 0.005% Zn, and 0.038% P.

‡One per cent dry supplement supplied 2,270 I.U. vitamin A, 454 I.C.U. vitamin D and 1.0 mg. riboflavin per pound of diet.

**TABLE 2. Summary of Average Specific Gravity of Eggs as Influenced by Calcium Level, Strain Differences and Zinc Supplementation**

| Period | Experimental week | Calcium level 2.25% | Calcium level 3.75% | Strain A | Strain B | Zinc Basal | Zinc Added |
|---|---|---|---|---|---|---|---|
| I | 1 | 1.0862 | 1.0865 | 1.0884 | 1.0828 | 1.0865 | 1.0861 |
| | 3 | 1.0835 | 1.0849 | 1.0867 | 1.0815 | 1.0844 | 1.0841 |
| | 5 | 1.0826 | 1.0862 | 1.0885 | 1.0801 | 1.0841 | 1.0845 |
| Heat added | 7 | 1.0829 | 1.0850 | 1.0877 | 1.0795 | 1.0837 | 1.0841 |
| | 9 | 1.0780 | 1.0815 | 1.0838 | 1.0754 | 1.0797 | 1.0799 |
| | Average | 1.0825 | 1.0848* | 1.0870** | 1.0796 | 1.0836 | 1.0836 |
| II | 11 | 1.0777 | 1.0804 | 1.0832 | 1.0745 | 1.0792 | 1.0789 |
| | 13 | 1.0771 | 1.0799 | 1.0827 | 1.0739 | 1.0782 | 1.0787 |
| | 15 | 1.0768 | 1.0796 | 1.0819 | 1.0742 | 1.0777 | 1.0787 |
| | 17 | 1.0758 | 1.0792 | 1.0810 | 1.0734 | 1.0776 | 1.0782 |
| | 19 | 1.0759 | 1.0789 | 1.0812 | 1.0731 | 1.0771 | 1.0776 |
| | Average | 1.0767 | 1.0796** | 1.0820** | 1.0739 | 1.0776 | 1.0784 |
| III | 21 | 1.0755 | 1.0785 | 1.0809 | 1.0727 | 1.0764 | 1.0776 |
| | 23 | 1.0751 | 1.0781 | 1.0804 | 1.0723 | 1.0764 | 1.0767 |
| | 25 | 1.0721 | 1.0762 | 1.0776 | 1.0707 | 1.0738 | 1.0742 |
| | 27 | 1.0734 | 1.0774 | 1.0787 | 1.0714 | 1.0752 | 1.0755 |
| | 29 | 1.0742 | 1.0774 | 1.0786 | 1.0724 | 1.0757 | 1.0758 |
| | Average | 1.0741 | 1.0776** | 1.0793** | 1.0719 | 1.0756 | 1.0760 |
| IV | 31 | 1.0720 | 1.0750 | 1.0774 | 1.0692 | 1.0740 | 1.0729 |
| | 33 | 1.0737 | 1.0765 | 1.0778 | 1.0703 | 1.0753 | 1.0752 |
| | 35 | 1.0745 | 1.0762 | 1.0774 | 1.0722 | 1.0757 | 1.0751 |
| | 37 | 1.0743 | 1.0758 | 1.0776 | 1.0720 | 1.0751 | 1.0750 |
| | 39 | 1.0737 | 1.0754 | 1.0771 | 1.0716 | 1.0744 | 1.0746 |
| | Average | 1.0736 | 1.0758** | 1.0776** | 1.0710 | 1.0748 | 1.0745 |

**Significantly different (P<.01).

**FIGURE 1. Average weekly minimum and maximum temperature data for 40-week experiment. Supplementary heat added during the eighth week.**

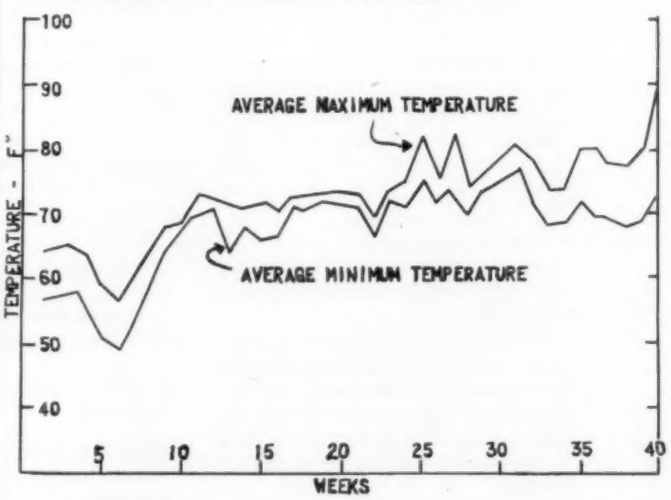



**FIGURE 2. Egg shell quality as measured by specific gravity for two calcium levels. (Combined data for two strains.)**

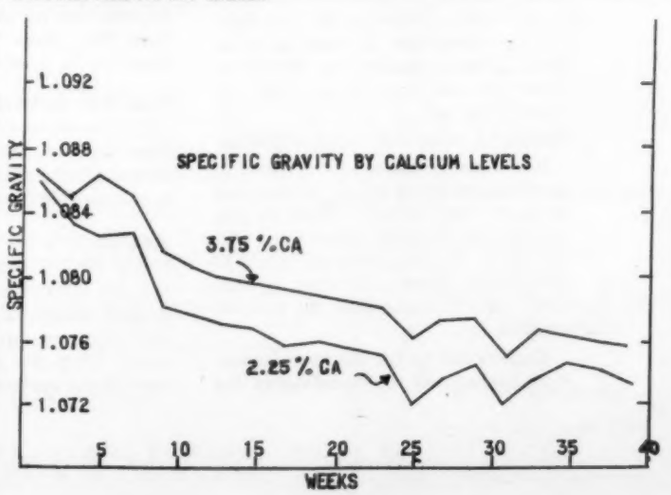


**TABLE 3. Summary of Average Specific Gravity of Eggs for Each Strain as Influenced by Calcium Level**

| Period | Experimental week | Strain A 2.25% Ca | Strain A 3.75% Ca | Strain B 2.25% Ca | Strain B 3.75% Ca |
|---|---|---|---|---|---|
| I | 1 | 1.0883 | 1.0888 | 1.0824 | 1.0832 |
| | 3 | 1.0864 | 1.0870 | 1.0804 | 1.0826 |
| | 5 | 1.0866 | 1.0904 | 1.0788 | 1.0816 |
| | 7 | 1.0863 | 1.0890 | 1.0792 | 1.0798 |
| | 9 | 1.0819 | 1.0856 | 1.0739 | 1.0769 |
| | Average | 1.0859 | 1.0881** | 1.0786 | 1.0807** |
| II | 11 | 1.0817 | 1.0848 | 1.0735 | 1.0755 |
| | 13 | 1.0812 | 1.0842 | 1.0732 | 1.0749 |
| | 15 | 1.0803 | 1.0834 | 1.0734 | 1.0751 |
| | 17 | 1.0789 | 1.0832 | 1.0726 | 1.0744 |
| | 19 | 1.0793 | 1.0832 | 1.0722 | 1.0741 |
| | Average | 1.0803 | 1.0838** | 1.0730 | 1.0748** |
| III | 21 | 1.0787 | 1.0832 | 1.0720 | 1.0733 |
| | 23 | 1.0781 | 1.0830 | 1.0719 | 1.0728 |
| | 25 | 1.0746 | 1.0809 | 1.0695 | 1.0719** |
| | 27 | 1.0763 | 1.0811 | 1.0703 | 1.0727** |
| | 29 | 1.0764 | 1.0809 | 1.0718 | 1.0732* |
| | Average | 1.0769 | 1.0819** | 1.0711 | 1.0728** |
| IV | 31 | 1.0753 | 1.0798 | 1.0685 | 1.0700* |
| | 33 | 1.0758 | 1.0795 | 1.0696 | 1.0709 |
| | 35 | 1.0765 | 1.0789 | 1.0720 | 1.0723 |
| | 37 | 1.0762 | 1.0791 | 1.0721 | 1.0719 |
| | 39 | 1.0754 | 1.0789 | 1.0719 | 1.0713 |
| | Average | 1.0758 | 1.0793** | 1.0708 | 1.0712 |

*, **Significantly different (P<.05) (P<.01).

**TABLE 4. Summary of Egg Production, Feed Consumption and Feed Efficiency Data as Influenced by Calcium Level, Strain Difference and Zinc Supplementation**

| | Calcium level 2.25% | Calcium level 3.75% | Strain A | Strain B | Zinc Basal | Zinc Added |
|---|---|---|---|---|---|---|
| Per cent egg prod. (1-40 wk.) | 70.9 | 72.4 | 73.6 | 69.6 | 71.7 | 71.6 |
| Average lb. feed cons./bird/ 4-wk. period | 7.33 | 7.65 | 7.65 | 7.32 | 7.48 | 7.49 |
| Average lb. feed cons./doz. eggs | 4.45 | 4.55 | 4.48 | 4.53 | 4.50 | 4.51 |

**TABLE 5. Summary of Average Egg Weight, Body Weight and Mortality as Influenced by Calcium Level, Strain Difference and Zinc Supplementation**

| | Calcium level 2.25% | Calcium level 3.75% | Strain A | Strain B | Zinc Basal | Zinc Added |
|---|---|---|---|---|---|---|
| Average egg weight: | | | | | | |
| Grams per egg | 58.20 | 57.94 | 58.98 | 57.11 | 58.07 | 58.89 |
| Ounces per doz. | 24.61 | 24.50 | 24.94 | 24.15 | 24.56 | 24.48 |
| Average body weight (lb.): | | | | | | |
| Start | 4.16 | 4.09 | 3.95 | 4.33 | 4.12 | 4.13 |
| Finish | 4.44 | 4.38 | 4.18 | 4.65 | 4.39 | 4.42 |
| Gain | 0.28 | 0.29 | 0.23 | 0.32 | 0.27 | 0.29 |
| Per cent mortality | 3.5 | 10.0 | 1.4 | 12.0 | 6.7 | 6.7 |

ly or at all to calcium above the previous accepted level of 2.25%?

The experiment conducted during this past year was designed to explore this problem. A commercial strain of white leghorns (strain A in all figures and tables) was selected which previously had been shown to produce eggs of markedly better shell quality than the Idaho strain (B). The two strains were fed rations as shown in Table 1 with calcium levels of 2.25 and 3.75%. Adjustments were made in other ingredients to assure equal protein and energy content per pound of ration. The supplementary calcium was supplied as oyster shell flour.

Each calcium level was fed to two lots of 40 hens of each strain of birds, resulting in a total of eight experimental pens. One of the duplicate pens of each calcium level and each strain also received a supplement of 30 p.p.m. of zinc to study the possible need for this mineral. The birds were approximately six months of age when the experiment started and were producing at about 60%. The experiment was started in October, 1959, conducted for a period of 40 weeks, and completed in July, 1960. The birds were housed in a well insulated, thermostatically controlled, fan ventilated building. During the first seven weeks of the experiment the temperature fluctuated from 50 to 65° F. During the eighth week, the temperature was gradually raised to 70-75° and maintained in that range for the following 32 weeks. The average minimum and maximum temperature data for the complete experiment are shown in Figure 1.

Shell quality was determined by the specific gravity technique. All eggs produced during a three-day period of alternate weeks were measured. The range of specific gravity of the salt solutions varied from 1.060 to 1.094 with the interval between solutions being 0.002 of a specific gravity unit.

Other production factors studied included percent egg production, egg size, feed consumption, feed efficiency and livability.

**INCREASED CALCIUM INTAKE IMPROVES SHELL QUALITY**—The data obtained has been summarized on the basis of the influence of calcium level, strain differences, calcium level within each strain and zinc supplementation upon egg shell quality.

The higher calcium level resulted in a marked improvement in shell

(Turn to page 22)

**FIGURE 3. Strain difference in egg shell quality as measured by specific gravity. (Calcium levels combined.)**

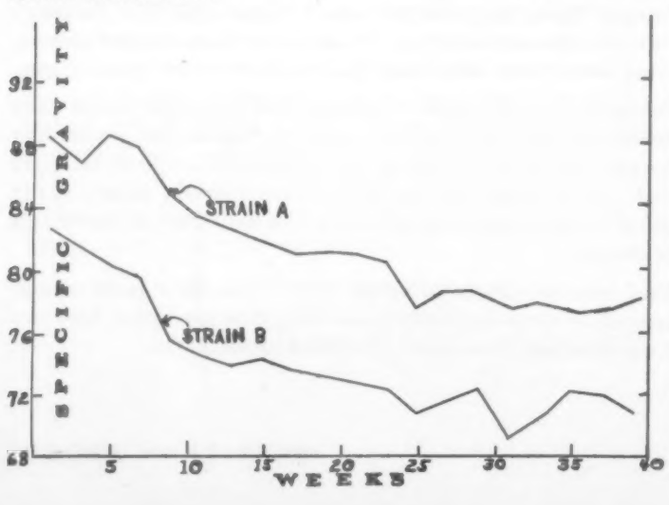



**FIGURE 4. Egg shell quality data for each strain of birds fed the two calcium levels. Strain A not only produced better shell quality but responded more to high calcium intake.**

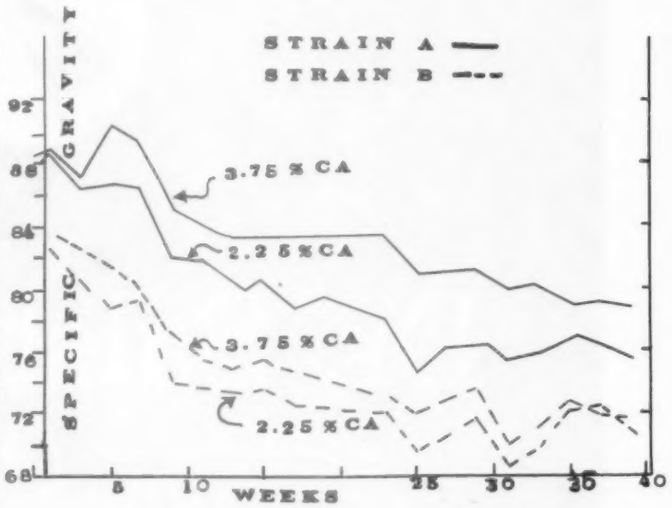



**FIGURE 5. Average percent egg production for 40-week experiment for two calcium level studies. (Combined data for two strains.)**

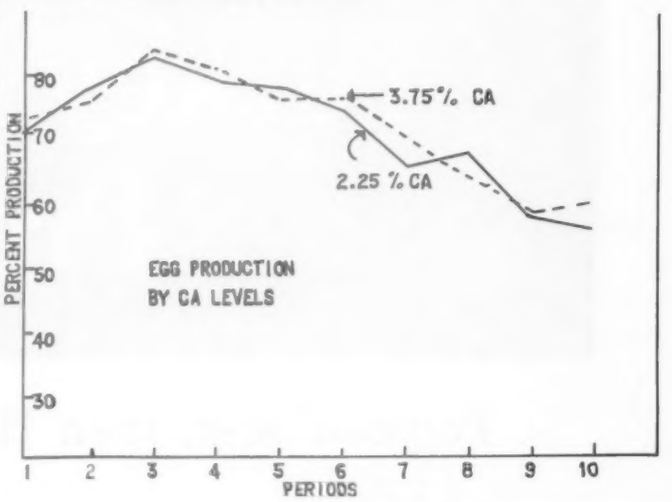
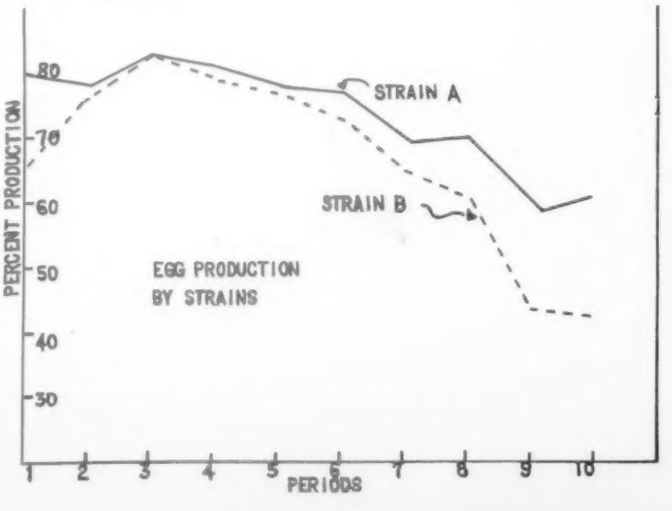



**FIGURE 6. Egg production data for strains A and B. Note marked drop for strain B during last few periods.**



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quality. The average specific gravity data for each calcium level fed for the two strains combined are shown in Figure 2 and the first two columns of Table 2. It will be noted in Figure 2 that the birds responded to the 3.75% calcium intake by the third week of the experiment and maintained about the same improvement over the 2.25% level throughout the 40 week experiment. The influence of the rise in laying house temperature during the eighth week is noted by a rapid decline in specific gravity values, which was followed by a gradual decline for the remainder of the experiment. The average specific gravity values for alternate experimental weeks are shown in Table 2. In addition, each 10 week period is averaged and it will be noted that the 3.75% calcium level resulted in a statistically significant improvement. The data for these two calcium levels is very similar to results previously obtained at this station and reported in Feedstuffs.

**COMMERCIAL STRAIN PRODUCES BEST SHELL QUALITY**—The commercial strain (A) used was selected because it was known to produce eggs with significantly better shells than the Idaho Agricultural Experiment Station strain. This difference was highly significant throughout the experiment as will be noted in the two center columns of Table 2 and in Figure 3. Strain A was producing eggs with an average specific gravity value of 1.088 at about six months of age (experimental week 1) as compared to the Idaho strain with values of 1.082. It is not known what specific gravity value is desirable for satisfactory shell quality, but preliminary work at this station indicates that greater breakage occurs in egg handling and processing when the specific gravity values fall below 1.078. The commercial strain produced eggs at or above this value for the major part of the experiment, whereas the Idaho strain was producing eggs below this value by the eighth experimental week at the time the environmental temperature was increased.

**HIGH SHELL QUALITY STRAIN RESPONDS TO INCREASED CALCIUM INTAKE**—It had been suggested that birds which produced eggs of good shell quality when fed the recommended calcium intake


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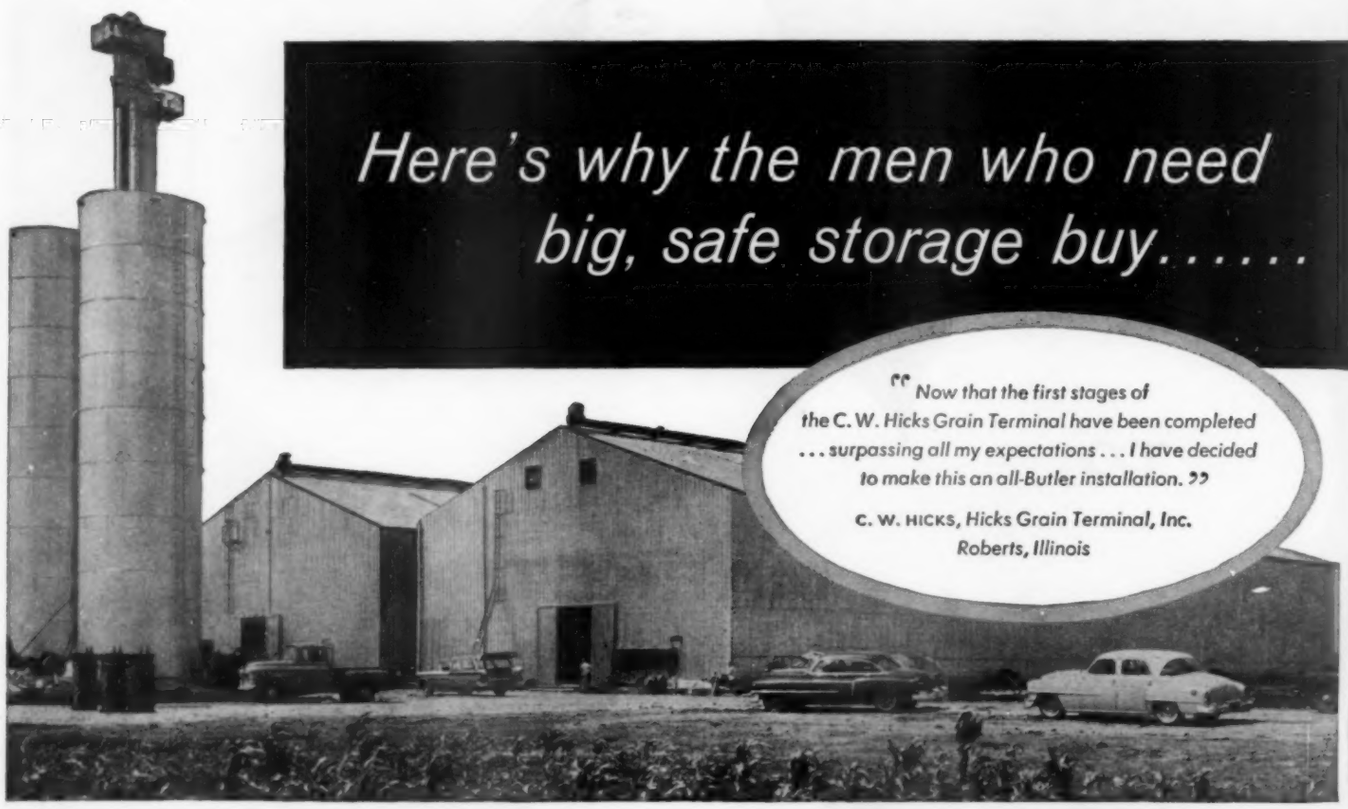

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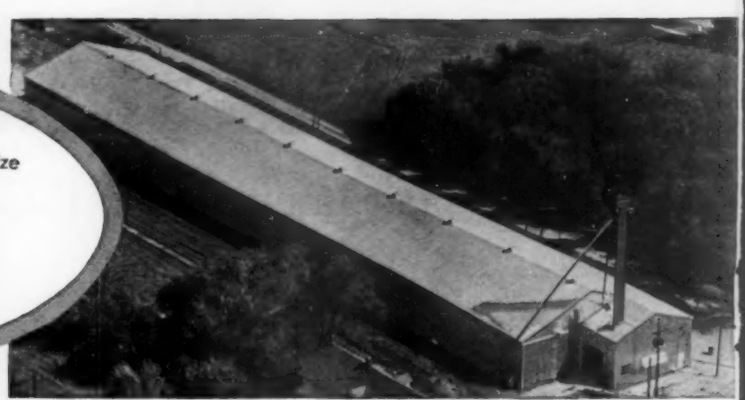

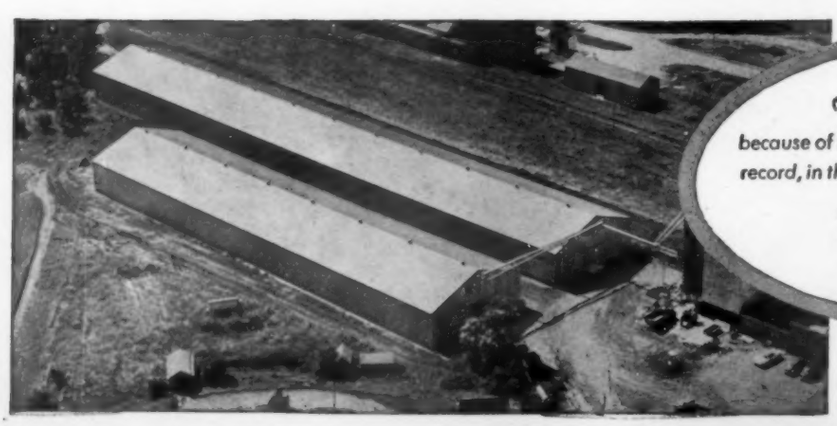

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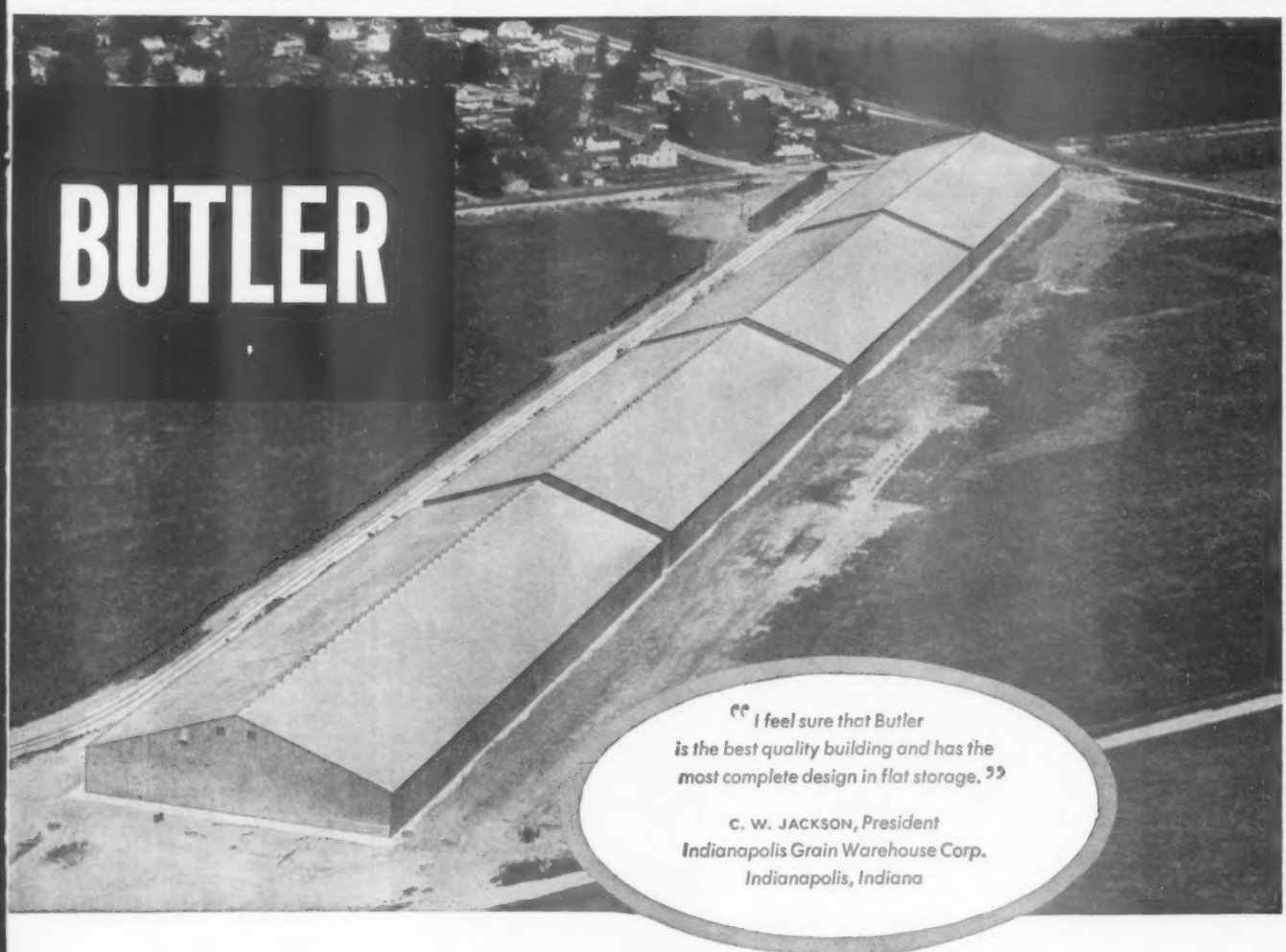
would not respond when the calcium was increased from 2.25 to 3.75%. That such was not the case with the strain used in this study is definitely shown in Figure 4 and Table 3. Not only did the commercial strain (A) produce eggs with better shells but the improvement obtained from the higher calcium intake was considerably greater than was obtained with the Idaho strain (B). With strain A, there was a tendency for the difference in specific gravity values between the two calcium levels to become greater as the experimental year progressed indicating that the higher calcium level prevented deterioration of shell quality associated with increasing age of birds. In contrast, the differences tended to become less with the Idaho strain during the course of the experiment. It would appear that strain A not only was genetically capable of producing better shells, but had greater capacity for calcium absorption when the calcium intake was increased and when the birds were kept at an environmental temperature above 70° F.

As shown in Table 3, the increase in specific gravity values for strain A was highly significant for all experimental periods. The average weekly values obtained when this strain was fed 3.75% calcium never fell below 1.0789 and as previously noted this value is near the minimum believed to be needed for satisfactory shell strength. Strain A did fall below this value at about the 24th week of the experiment or the 28th week of production when the calcium intake was 2.25%.

The Idaho strain (B) failed to produce eggs of satisfactory shell quality at even the 3.75% level and a larger percentage of these eggs were characterized by roughness, excessive calcium deposits and thin, weak shells. As reported in a previous issue of Feedstuffs, the shell quality of this strain of birds continued to improve with calcium intakes of 4.50 and 5.25% when the laying house temperature was similar to that used in this experiment.

**RATE OF EGG PRODUCTION INFLUENCES SHELL QUALITY** — Egg production was not depressed by increasing the calcium level of the feed. The data for calcium levels is shown in Figure 5 and the first column of Table 4. It will be noted in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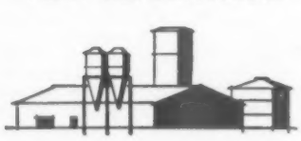

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Figure 5 that egg production was very similar throughout the experiment.

Strain A produced at a slightly better rate as shown in the second column of Table 4 and more specifically in Figure 6, where it will be noted that there was very little difference between strains during the first half of the experiment, but that strain B declined at a more rapid rate especially during the last 12 weeks. A close inspection of the specific gravity values in the last two columns of Table 3 will show that strain B failed to respond to 3.75% calcium at about the same period of the experiment that egg production declined. The specific gravity values for 2.25% calcium were approximately the same as 3.75% calcium from the 33rd to the 40th experimental week. Also, it is noted that shell quality did not decline during these same weeks when egg production was reduced. This is in contrast to previous work in which shell quality continued to decline through similar experimental periods. This data suggests that 2.25% calcium is adequate if egg production is below 50-55%.

**CALCIUM INTAKE INFLUENCES FEED CONSUMPTION AND FEED EFFICIENCY** — As in previous experiments, the increase in calcium content of ration resulted in an increase in feed consumed and a slight increase in feed required to produce a dozen eggs. The percentage increase in feed consumption was approximately the same as the amount of shell flour added. Therefore, the increased consumption would be the result of the additional shell flour which is the lowest cost feed ingredient. The increased feed would amount to approximately 4 lb. per bird for 12 months and since the actual increase was largely shell flour this would amount to less than 4¢ per bird. Saving one egg through improved shell quality would pay for this slight increase in feed consumption.

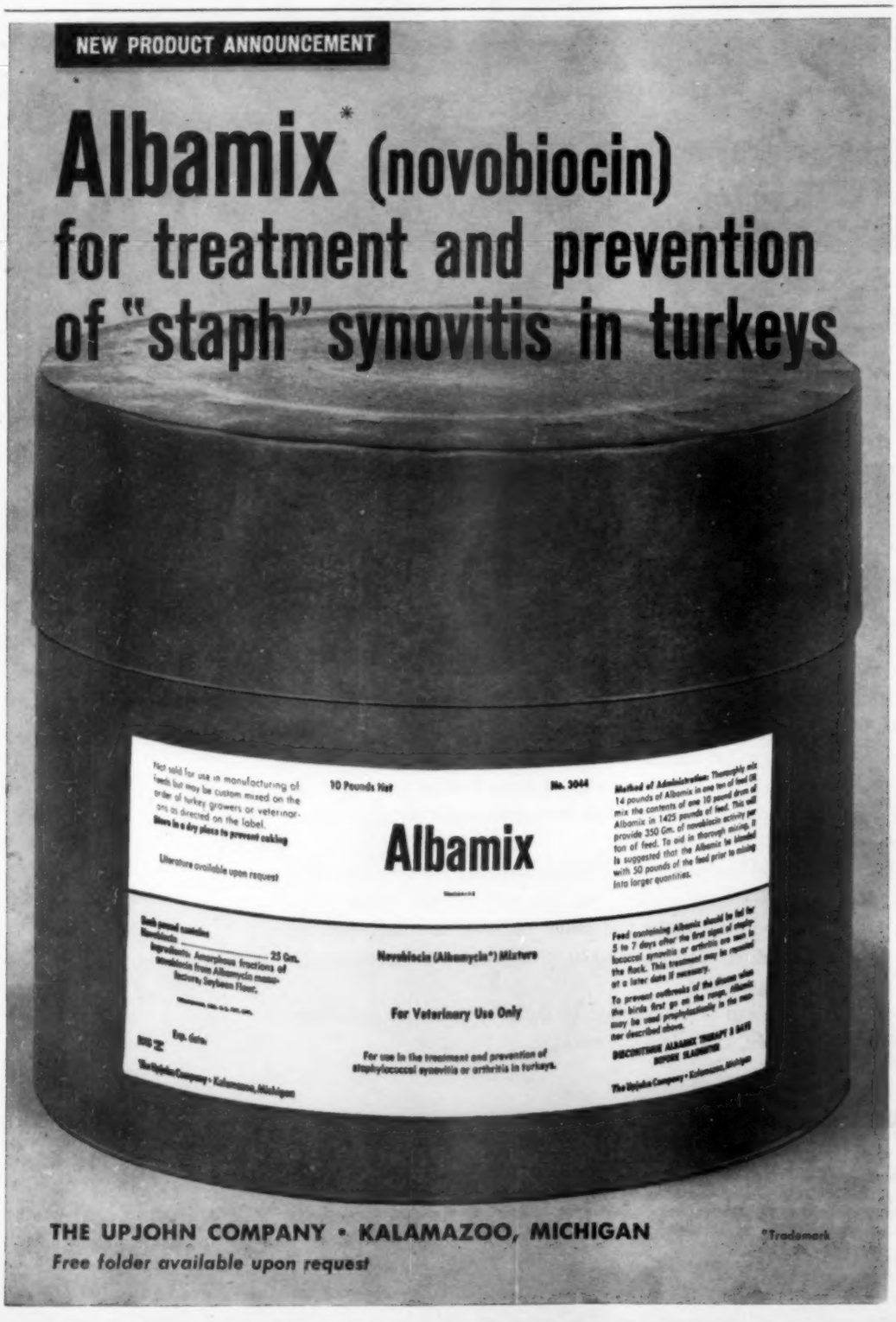
The average feed consumption per bird per period (Table 4) was greater for the commercial strain A than strain B. The body weight of strain A was smaller and these birds also gained less during the 40 week experiment than strain B. However, they produced at a slightly higher rate which may have been responsible for part of the increase in feed consumption. Livability was also considerably better with strain A which may have resulted in increased feed consumption because of improved general health.

**SHELL QUALITY NOT IMPROVED BY ADDED ZINC** — The addition of 30 p.p.m. of supplementary zinc to a ration containing approximately 30 p.p.m. did not improve shell quality or prevent the decline which occurred when the temperature was increased or which occurred as the laying year progressed. The average specific gravity data obtained from additional zinc is shown in the last column of Table 2. Added zinc did not influence other production measurements taken as noted in Tables 4 and 5.

**SUMMARY** — A 40 week experiment was conducted to compare the effect of 2.25 and 3.75% calcium upon egg shell quality when fed to two strains of white leghorn pullets of widely different inherent shell quality characteristics. One strain (Idaho Agricultural Experiment Station) produced eggs with relatively poor shell quality and this strain was compared to a commercial strain with good shell quality characteristics. The influence of supplementary zinc was also studied. The environmental temperature following the first eight weeks of the experiment was maintained at 70-75° F. since it is well established that this temperature places an additional stress upon egg shell deposition. All poultry producing areas of the U.S. experience considerable periods of time in which a part or all of the daily temperature will exceed 70° F. The problem of deteriorating shell quality due to increased temperature is of major concern in most southern states during a considerable portion of the year.

The results of this experiment were in excellent agreement with previous studies conducted at the Idaho Agricultural Experiment Station show-

(Turn to EGG SHELL, page 95)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# JOE BROOKS

BY AL P. NELSON

## Grain Drying Pays

When Rusty Hagen, the bookkeeper, answered the phone early that March morning, a voice said, "Is Joe Brooks in?"

"You bet he is," said the runty bookkeeper. "He's just in from the postoffice. Joe, the phone!"

The tall, brown haired feed dealer laid his mail down on the desk, shoved his stormcoat open and grabbed the phone. "This is Joe Brooks," he said.

"Brooks, this is Pete Belnar, a feed dealer at Mulberry Grove, about 125 miles from Hansen's Creek. My wife wants to visit a sick relative near your town, and I thought if you'd be around the mill I'd like to talk to you, and take a look at your grain drying operation. I hear it's a good one."

"Okay," Joe said. "Come along. I'll be in all afternoon. I don't go to lunch till 12:30, so if you make it by that time, let's go to lunch together."

Thus it was that Pete Belnar, a stocky, black haired feed dealer, came to Hansen's Creek just in time to go to lunch with Joe Brooks at Happy's Cafe down the street.

"How's business?" Joe asked Mr. Belnar as they began to chat after giving their order.

"Oh, pretty good," Mr. Belnar said. "A man has to keep lookin' ahead though. Can't stand still."

Joe chuckled. "That's the way I feel. Got a pellet machine?"

Mr. Belnar nodded. "Yeah, I put one in a year ago. It's helped me win a lot of new customers. Now I'm thinking about grain drying. Had a lot of wet corn this past couple years. That creates problems. I hear you've got two driers."

### Pay for Themselves

Joe nodded. "Yes, and I'm pretty well satisfied with them. I figure they'll pay for themselves in 19 months, that means three months from now."

Mr. Belnar whistled. "Say, that's somethin'. How much did each cost?"

"About $6,500 each, and they have really kept us going on the corn deal."

Mr. Belnar buttered a poppyseed roll. "How come you need two driers? Couldn't you get along with one?"

Joe shook this head. "Not with the volume I do," he said. "And there's the manpower angle. You gotta have a man watch them, or else the wet corn might pack sometimes and the corn will overflow. And one man can watch two driers. That way I get more labor outa that fellow."

Mr. Belnar grinned. "I get it," he said. "I hadn't thought of that."

The waitress brought their roast beef plate lunches, coffee and tossed salad. After the first few satisfying bites, Mr. Belnar resumed, "What's the capacity of those driers?"

Joe took a sip of coffee, "Six hundred bushels each."

"And how many batches can you dry per day in each drier?"

Joe considered. "Well," he said slowly, "a batch takes from three to five hours to dry. We figure on drying two batches per day per machine, when the season is right."

"How much do you charge for drying?"

Joe buttered a piece of bread. "We charge 1¢ per point for drop in moisture content. We bring the corn down to 15% moisture, but if it is for government seal then we bring it to 14%."

"And how long does your corn drying operation last here?"

Joe chuckled. "Heck, we are kept busy from about Sept. 1 right through until April 1. We dry a mighty lot of corn during that time."

"And I suppose it ties in with your grain bank plan?"

Joe nodded. "Sure, it works perfectly. We've got a 20,000 bu. grain bank storage. The farmer deposits his grain on a poundage basis and withdraws it in pounds. We charge 1% for shrink. No corn goes into the bank unless it is 15%. That is where the grain driers come in real handy. And by having two driers we can handle a lot of grain during a day."

### No Traffic Congestion

Mr. Belnar cut open another poppyseed roll. "In other words you don't have a lot of farm trucks lined up waiting for grain drying."

"No, in fact, we would rather go out and haul in a farmer's corn ourselves. Then we can feed our driers accordingly."

"Do you shell corn at your mill?"

"Sure, we've got a corn sheller, but a lot of farmers get their corn shelled right on the farm by portable shellers. Our corn sheller is kept busy. We make money on that service."

Mr. Belnar drank some more coffee. "Joe, does all the corn you dry go into your grain bank?"

"Oh, no. Quite a bit of it does, of course. Lots of farmers have corn dried and then take it home and put it into storage. Then, too, we market some corn. The discounts on market corn were heavy this year in this area. One farmer saved $200 on 1,800 bu. by having it dried."

"This certainly is interesting," said Mr. Belnar. "You're supplying me with just the information I want. What kind of fuel are you using on the driers, Joe?"

"I'm using natural gas. In this area it's perhaps the cheapest for me."

"I don't suppose there are any problems to this grain drying business the way you have it organized?" Mr. Belnar said.

"Sure, there are. I've already mentioned the fact that wet corn may pile up sometimes and overflow. And in winter if our area has a severe cold spell and a lot of gas is used for heating in our community and nearby area, then the natural gas pres-


*Here are some reports on recent work offering a solution to the Blood Spot problem*

FEEDSTUFFS, June 11, 1960

**Scientist Discusses Egg Bloodspot Causes**

MANHATTAN, KANSAS—Rodenticides or a shortage of vitamin K in rations may cause eggs with bloodspots, according to Dr. Paul E. Sanford, poultry husbandry department at Kansas State University.

Referring to low vitamin K, the poultry scientist noted that most poultry rations now contain dehydrated alfalfa meal as a natural source of vitamin K, and that some feed manufacturers are adding synthetic vitamin K as a guard against the hemorrhagic condition.

Dr. Sanford says a 1-2% loss due to bloodspots is to be anticipated (on the candled basis), but if the grading loss runs much higher than 2%, a poultryman "must" become concerned.

**Firm's Test Shows Vitamin K Reduces Blood Spot Incidence**

VALLEY STREAM, N. Y. – Recently announced experimental results indicate that the feeding of vitamin K reduces the percentage of blood spots in eggs—an abnormality which causes heavy marketing losses.

This observation comes from work conducted by Heterochemical Corp. to study the value of using stabilized vitamin K premixes in retarding the incidence of egg blood spots.

In a technical paper on the tests involving "Hetrogen K Premixes," a brand of stabilized menadione sodium bisulfite produced by Heterochemical, Raymond Berruti and Gilman T. Dedrick conclude:

"It appears that under experimental conditions the addition of 4 gm. of stabilized Hetrogen K per ton of commercial layer feeds would be of great economic advantage in decreasing the number of eggs with blood spots and increasing the percentage of marketable eggs."

Summarizing results of the study in which the incidence of blood spots, egg production, egg weight, interior egg quality and feed consumption were emphasized, Mr. Berruti and Mr. Dedrick report that hens with a history of high blood spots when taken off feed containing 4 gm. of stabilized vitamin K returned to laying eggs with a higher percentage of blood spots.

"These results suggest," they say, "that the stabilized K had a marked effect in prevention of hemorrhages of blood vessels inside the yolk sac and follicle."

### More Research Needed

The investigators observe that the need for additional research in the area of reducing blood spot incidence is apparent, and they note that previous work with lower levels of vitamin K of "a questionable stability" showed no curtailment of blood spot occurrence.

They say the study they describe was initiated in view of recent technological advancement in the stabilization of vitamin K in premixes and in view of new information relative to blood spot formation.

They say blood spots in shell eggs continue to be a serious problem for the poultry industry. "Economic losses from these defects are great and with the development of automatic detecting devices the problem is becoming even more intensified from the standpoint of breeder and producer."

### Test Procedure

Heterochemical's vitamin K study began with the placing of 540 White Leghorn hens, 14 months of age, in individual 8-in. wire cages. These hens were fed a basal diet on which they had been maintained since reaching 50% production.

The birds were divided into three rows of 180 birds each. Rows A and C were fed the basal diet, while row B was fed the same diet plus 4 gm. of Stabilized Hetrogen K per ton of ration. These hens were maintained in a cage layer house at temperatures which normally exist under winter conditions (in northeastern U.S.). A uniform light day of 14 hours was maintained.

After the fourth week, row B was split into two sections. One section continued to receive the basal ration plus vitamin K. The other section was fed the basal ration only.

Mr. Berruti and Mr. Dedrick report that the percentage of blood spots for row B, the group fed the basal diet and vitamin K, at the beginning of the trial was 6.9%. Row A and row C percentages were 6.3% and 7.7%, respectively.

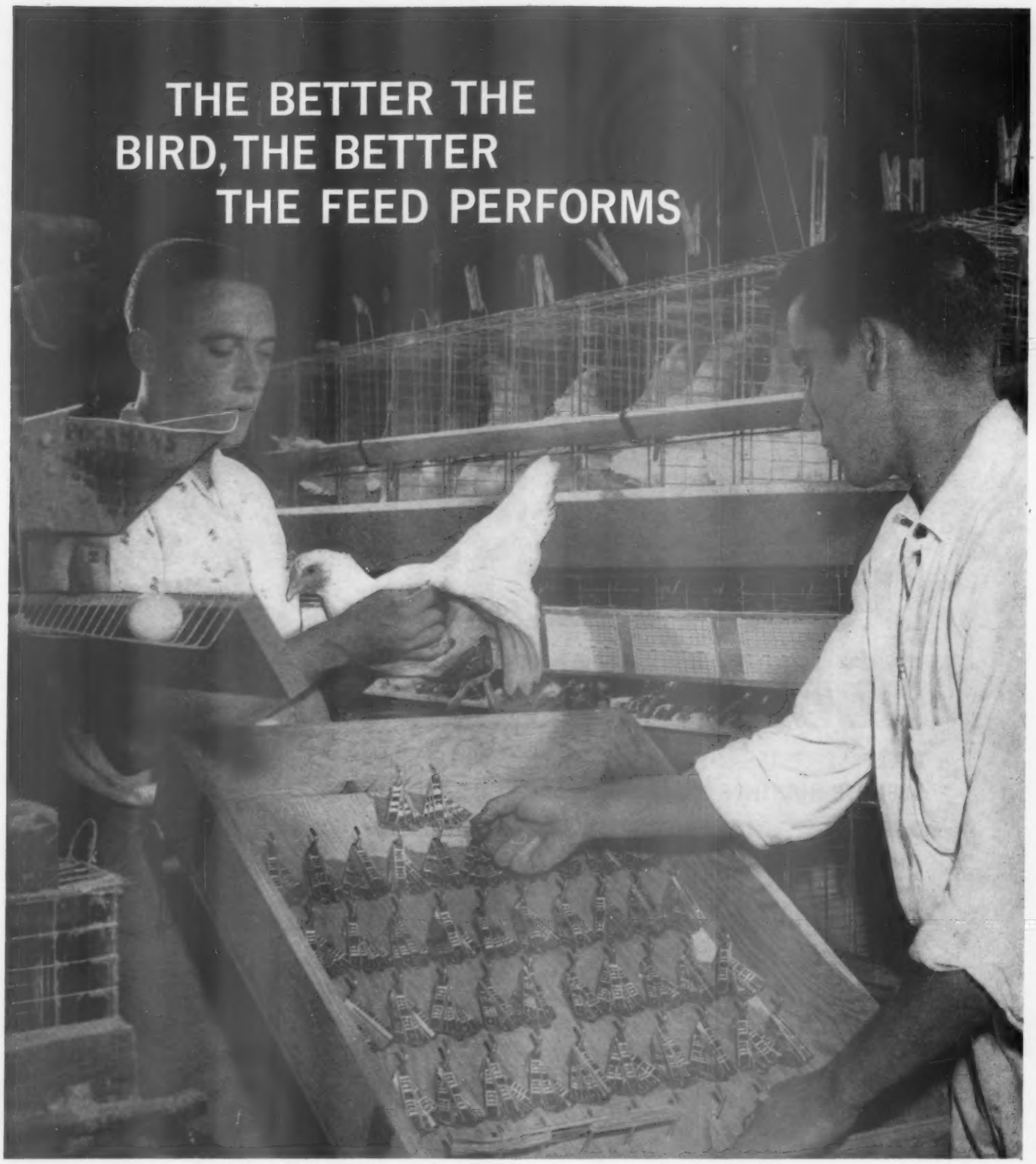
At the end of the two-week period following initial feeding of Hetrogen K to row B, the incidence of blood spots dropped to 3% in this group, while little change in incidence appeared in rows A and C.

The investigators report that at the end of the four-week period a further decrease (1.7%) in blood spots was evident in row B birds. Row A and C hens continued to show only slight change in the percentage of blood spots.

Mr. Berruti and Mr. Dedrick note that birds receiving supplementary Hetrogen K returned to laying eggs with a high percentage of blood spots within 16 days after the removal of supplementary K from the ration. One half of the birds in row B which continued to receive supplementary K laid eggs with an incidence of blood spots of 1.9%, whereas the group of birds taken off of Hetrogen K laid eggs 5.4% of which exhibited blood spots.

Further investigation is needed, the report authors say, to determine whether the reduction of blood spot incidence among birds in the test group was "due to the effect of Stabilized Hetrogen K in keeping blood vessels in better clotting condition or due to increased availability over other forms of vitamin K."

HETEROCHEMICAL CORPORATION
111 E. Hawthorne Avenue
VALLEY STREAM, L.I., N.Y.




Babcock layers Field-Test-Proven on one of many commercial poultry farms in the U.S.

## How field-testing helps Babcock layers cheat disease, step up feed performance

On commercial poultry farms throughout the nation, a vast Babcock testing program is in progress. Objective: to help develop strains possessing peak resistance to stresses and diseases for better on-the-farm livability and feed performance.

For example, many Babcock research birds are raised on old-hen litter. Others are undergoing tests in cages. They are exposed to every type of disease. We run grown and partly-grown birds together. We overcrowd them. They're under heavy exposure to various forms of coccidiosis.

This vast research program is conducted to produce hardier, healthier strains that will live and lay through stress conditions that adversely affect livability, production and feed efficiency in less rugged strains. In flocks or cages, you can use—you can recommend—Babcock layers with complete confidence! They are Field-Test-Proven.

**BABCOCK POULTRY FARM, INC.**

BOX 286-D • ITHACA, NEW YORK

Franchised hatcheries throughout the World

**IOWA FEED MEETING**—Sioux district dealers for Allied Mills, Inc., met in Mason City, Iowa, for an area-wide meeting built around the theme "Sales Promotion and Business Management Conference." Pictured here are four Wayne Feeds sales personnel and two dealers who have won "Sioux Warrior Chief" titles for top dealer ranking in the Sioux district. "Sioux Warrior" titles are awarded to the top 20 Sioux district dealers each month, and the dealer who tops the top 20 receives the additional title of "chief" and temporary possession of an Indian headdress. From left to right are R. Zinn, Wayne Sioux district sales manager, Mason City, Iowa; Ken Kelting, Wayne salesman, Cedar Falls, Iowa; Walter Schult, Wayne dealer and Sioux warrior chief, Sumner, Iowa; George Simon, Wayne dealer and Sioux warrior chief, Farley, Iowa; M. C. Swim, Wayne salesman, Monticello, Iowa, and John I. Hall, Wayne regional sales manager, Des Moines, Iowa.

sure gets quite low. When that happens we quit drying for a day or so. But we don't get enough cold weather to hamper us too much in winter."

After lunch the two feed men went to Joe's mill. Joe showed Mr. Belnar the grain drying operation and answered all of Mr. Belnar's questions. He even showed him his books on grain drying, the costs, the depreciations, etc.

"This is exactly the information I want," Mr. Belnar said sincerely. "Now I can go into the grain drying deal with my eyes open. I wish I could give you something in return."

**Exchange Trip**

"Well, maybe you can," Joe suggested. "I'm interested in pellet mill inspections, for we've got one, too. I may come down sometime and see your setup."

Mr. Belnar's brown eyes lighted. "Come any time," he said. "We have something that may interest you. We use a lot of hay in our pellet feeds. I was going to set up an elaborate pre-chopping silo deal for hay, but then I heard of a fellow in Indiana who sells and delivers hay pellets for about $32 a ton. Heck, that's cheaper than I can get my hay, including hay chopping and storing facilities. So I buy from this guy and come out swell."

"Good," Joe said. "That interests me. Now I know I'll be down to see you. Give me that man's name who sells hay pellets. I want him to call on me."

So Mr. Belnar left with a lot of ideas about grain drying, and Joe, too, got an idea from Mr. Belnar. And that's the way it is in most types of business—one man can learn from another. Such visiting opportunities are open to all feed men, if they will but take advantage of them.

## J. S. Collins Named To Pigloo Corp. Post

WAUKON, IOWA — Pigloo Corp. here has announced the appointment of James S. Collins, Hopkins, Minn., to manage a new department of the firm.

James S. Collins

He will head the animal production consultant service which the firm says is "an entirely new concept in agriculture and involves livestock production, breeding, feeding, housing and management systems for swine, calves and chickens.

Mr. Collins has been swine programs manager for Nutrena Mills, Inc., Minneapolis, and was with that firm for three years.

Pigloo Corp. says, "The concept of isolation with regard to livestock production was a development of Mr. Collins which first was applied successfully with Pigloos and Calfloos in Waukon, Iowa."

In his new position, the firm says, "Mr. Collins will take an active interest in the final phases of veal calf and dairy calf experiments, which, it is hoped, will lower the mortality rates of such animals decisively.

"Both Pigloo Corp. and Mr. Collins feel this new service will enable farmers, both large and small, to compete successfully in any field of animal production by taking advantage of the latest technical advances in the fields of feeding and housing."

The company states that since the position involves considerable travel, Mr. Collins will maintain his home in Hopkins, Minn.

**NEW KANSAS FIRM**

TOPEKA, KANSAS — McPherson (Kansas) Grain Co., Inc., has been granted a charter with $75,000 authorized capitalization to operate a general grain and commodity storage feed and seed business. John K. Bremyer has been named resident agent, it was reported.


# NEW FROM CARGILL
# DURA•BOND® PELLET BINDER

**DECREASES FINES, IMPROVES PELLET TOUGHNESS, HAS DEFINITE NUTRITIVE VALUE, INCREASES MILL OUTPUT**

**FINES REDUCTION** alone cuts down on reruns, gives a more attractive product and decreases waste by the animals or birds. DURA•BOND, because it allows the formula to absorb more moisture, acts as a lubricant—reducing die friction and increasing mill capacity.

**INCREASED EFFICIENCY** through the use of DURA•BOND can improve your pelleting. This new development of Cargill research is in use now by several major feed manufacturers—who report outstanding results.

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Please send detailed information, prices and a *free* sample of new DURA•BOND pellet binder.

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TEAR OUT AND FILE

# HERE ARE YOUR FEED TAG CLAIMS FOR 1961

for feeds containing
potent Terramycin®
BRAND OF OXYTETRACYCLINE

***Be sure to check these tags for any new claims you can make.***

FEED TAG CLAIMS

# POULTRY

## YOUR BRAND POULTRY BREEDER or STARTER FEEDS

### BREEDER FEEDS

#### IMPROVED HATCHABILITY

As an aid in *maintaining and improving normal hatchability* where birds are suffering stress from exposure and other causes, formulate your breeder feeds to provide 50-100 grams of Terramycin* per ton of total feed intake.

#### IMPROVED FERTILITY

To *improve fertility*, your feeds should provide Terramycin at the rate of 50-100 grams Terramycin per ton of total feed intake.

#### INCREASED EGG PRODUCTION

Feeds providing 10-50 grams of Terramycin per ton of total feed intake serve as an aid in *improving egg production (chickens)*. To *improve normal egg production, extend periods of high egg production, improve egg production and feed efficiency in the presence of disease and at times of stress*, your feeds should provide 50-100 grams of Terramycin per ton of total feed intake.

#### IMPROVED EGGSHELL QUALITY

To *improve eggshell quality*, include in your formulation 50-100 grams of Terramycin per ton of total feed intake.

#### PREVENTION OR TREATMENT OF DISEASE:

See the high-level feed tag at right for approved disease claims you can make when your breeder feeds are fortified with the indicated levels of Terramycin.

### STARTER FEEDS

#### REDUCED MORTALITY

The addition of 100 grams of Terramycin per ton of total feed intake for use during the first two weeks is effective in *reducing the early mortality* (caused by Terramycin-susceptible organisms) which is often found in baby chicks and poults.

#### IMPROVED LIVABILITY OF CHICKS OR POULTS

To *improve livability* of chicks or poults when losses are due to Terramycin-susceptible organisms, fortify your feeds with 50-100 grams of Terramycin per ton of total feed intake.

#### BETTER GAINS AND FEED EFFICIENCY

Fortify your feed so as to provide 5-7½ grams Terramycin per ton of total feed intake to *increase rate of gain and improve feed efficiency*. Feed from hatching to market.

#### PREVENTION OR TREATMENT OF DISEASE:

See the high-level feed tag at right for approved disease claims you can make when your starter feeds are fortified with the indicated levels of Terramycin.

## YOUR BRAND LAYING FEEDS

#### IMPROVED EGG PRODUCTION

Terramycin* used at the rate of 10-50 grams per ton of total feed intake serves as an aid in improving *egg production* (chickens).

When used at the rate of 50-100 grams of Terramycin per ton of total feed intake, Terramycin can *improve normal egg production, extend periods of high egg production, improve egg production and feed efficiency in the presence of disease and at times of stress.*

#### IMPROVED EGGSHELL QUALITY

Terramycin, used at the rate of 50-100 grams per ton of total feed intake can *improve eggshell quality.*

#### PREVENTION OR TREATMENT OF DISEASE

**Blue Comb**—Terramycin at the rate of 50 grams per ton of total feed intake is an aid in the prevention of Blue Comb (also known as mud fever or non-specific enteritis). At the rate of 100 grams per ton of total feed intake, Terramycin is an aid in the *treatment of Blue Comb*. Treatment with the above level of Terramycin is usually effective within 5 days. If improvement is not noted at this time, re-examine the diagnosis.

**CRD and Infectious Sinusitis**—The addition of 100-150 grams of Terramycin per ton of feed has been found to be an aid in *reducing mortality* in birds which have suffered an attack of air sac (CRD). It is recommended wherever possible to feed from time of attack to marketing.

**Infectious Synovitis**—As an aid in the *prevention* of Infectious Synovitis add 100 grams of Terramycin per ton of complete feed intake. As an aid in the *treatment* of Infectious Synovitis add 200 grams of Terramycin per ton of complete feed intake.

**Stress Setbacks**—Add 50 grams of Terramycin per ton of total feed intake for use after any shock or upset such as overheating, chilling, vaccination, worming, debeaking, moving, for the *prevention of disease* from Terramycin-susceptible organisms during periods of stress. Feeding should be continued for 2-5 days following stress, depending upon condition of birds. To *minimize shock*, this feed should be used for 2-3 days prior to vaccination, worming, debeaking, moving.

**Fowl Cholera**—Terramycin in feed serves as an aid in *prevention* of Fowl Cholera in chickens. Provide 200 grams of Terramycin per ton of complete feed. (Feed continuously.)

**Avian Infectious Hepatitis**—Terramycin in feed serves as an aid in *prevention* of Avian Infectious Hepatitis in chickens. Provide 200 grams Terramycin per ton of complete feed. (Feed continuously.)

## YOUR BRAND HIGH-LEVEL FEED

#### PREVENTION OR TREATMENT OF DISEASES:

**Blue Comb**—Terramycin* at the rate of 50 grams per ton of total feed intake is an aid in the *prevention of Blue Comb* (also known as mud fever or non-specific enteritis). At the rate of 100 grams per ton of total feed intake, Terramycin is an aid in the *treatment of Blue Comb*. Treatment with the above level of Terramycin is usually effective within 5 days. If improvement is not noted at this time, re-examine the diagnosis.

**CRD and Infectious Sinusitis**—The addition of 100-150 grams of Terramycin per ton of feed has been found to be an aid in *reducing mortality* in birds which have suffered an attack of air sac (CRD). It is recommended wherever possible to feed from time of attack to marketing.

**Infectious Synovitis**—As an aid in the *prevention* of Infectious Synovitis add 100 grams of Terramycin per ton of complete feed intake. As an aid in the *treatment* of Infectious Synovitis add 200 grams of Terramycin per ton of complete feed intake.

**Stress Setbacks**—Add 50 grams of Terramycin per ton of total feed intake for use after any shock or upset such as overheating, chilling, vaccination, worming, debeaking, moving, for the *prevention of disease* from Terramycin-susceptible organisms during periods of stress. Feeding should be continued to 2-5 days following stress, depending upon condition of birds. To *minimize shock*, this feed should be used for 2-3 days prior to vaccination, worming, debeaking, moving.

**Fowl Cholera**—Terramycin in feed serves as an aid in prevention of Fowl Cholera in chickens. Provide 200 grams of Terramycin per ton of complete feed. (Feed continuously.)

**Avian Infectious Hepatitis**—Terramycin in feed serves as an aid in *prevention* of Avian Infectious Hepatitis in chickens. Provide 200 grams Terramycin per ton of complete feed. (Feed continuously.)

**Hexamitiasis**—As an aid in the *prevention* of Hexamitiasis add 50 grams of Terramycin per ton of complete feed intake. As an aid in the treatment of Hexamitiasis add 100 grams of Terramycin per ton of complete feed intake.

*Whenever the word Terramycin appears hereafter it shall be understood to refer to oxytetracycline HCl activity.

# FEED TAG CLAIMS

## CATTLE

### YOUR BRAND CALF FEEDS

**BETTER GAINS AND FEED EFFICIENCY**

Feeds containing 10-25 grams of Terramycin* per ton of total feed intake can *increase rate of gain and improve feed efficiency* when fed from birth to 12 weeks of age.

**PREVENTION OR TREATMENT OF SCOURS**

For *prevention or treatment* of Bacterial Diarrhea (Scours) add recommended levels or equivalent to furnish 0.1-5 mg. of Terramycin per pound of body weight daily.

### YOUR BRAND DAIRY FEED

**INCREASED MILK PRODUCTION**—As an aid in increasing milk production in lactating dairy cows, formulate your feed so as to provide 75 mg. of Terramycin* per head per day. Note: When this product is used as directed, tests conducted on milk from treated animals show no residue of Terramycin.

**PREVENTION OR TREATMENT OF SCOURS**—Terramycin in your feeds at the recommended levels, or equivalent, to furnish 75-100 mg. of Terramycin per head daily can aid in the prevention or treatment of Bacterial Diarrhea (Scours).

**LESS BLOAT**—Feeds which furnish 75 mg. of Terramycin per head daily serve as an aid in reducing the incidence and severity of bloat.

## SHEEP

### YOUR BRAND BEEF FEEDS

**BETTER GAINS AND FEED EFFICIENCY**

To *increase rate of gain and improve feed efficiency*, fortify the finishing ration so as to provide 75 mg. of Terramycin* per head daily.

**LESS BLOAT**

As an aid in *reducing incidence and severity of bloat*, add Terramycin to your feeds at recommended levels so as to provide 75 mg. per head daily.

**REDUCED LIVER ABSCESSES**

As an aid in *reducing incidence of liver abscesses*, add Terramycin to your feeds at recommended levels to furnish 75 mg. per head daily.

**PREVENTION OR TREATMENT OF SHIPPING FEVER**

For *prevention* or *treatment* of the *early stages of shipping fever complex*, add recommended levels, or equivalent, to furnish 0.5-2 grams Terramycin per head daily. Terramycin treatment at these levels is effective prophylaxis when fed to cattle for 3-5 days preceding shipment or 3-5 days following arrival in feedlots. For treatment of shipping fever, these levels should be fed at the onset of the disease symptoms and continued until symptoms disappear.

**CONTROL OF SCOURS**

For *prevention* or *treatment* of *Bacterial Diarrhea* (Scours) add recommended levels, or equivalent, to furnish 0.1-5 mg. of Terramycin per pound of body weight daily.

## SWINE

### YOUR BRAND SWINE FEEDS

**BETTER GAINS AND FEED EFFICIENCY**

Terramycin* in feeds used from birth to market can help *increase rate of gain and improve feed efficiency*. Add Terramycin at the rate of 25-50 grams per ton for pigs weighing 10-30 lbs. and 7½ to 10 grams per ton complete feed for pigs weighing 30-200 lbs.

**CONTROL OF SCOURS**

Terramycin in swine feeds serves as an aid in the *prevention or treatment of Bacterial Diarrhea* (also known as Infectious Enteritis, Vibrio Dysentery, Necro, Necrotic Enteritis, Salmonella Infections, Black Scours, Bloody Dysentery, Bacillary Infections associated with Virus diseases). As an aid in *prevention*, fortify feeds at the rate which supplies 50 grams Terramycin per ton of complete feed intake. As an aid in *treatment*, fortify feeds at the rate of 100 grams Terramycin per ton of complete feed intake.

**ATROPHIC RHINITIS**

As an aid in the *maintenance of weight gains and feed consumption* in the presence of Atrophic Rhinitis, fortify feeds at the rate which will supply 50-150 grams Terramycin per ton of complete feed intake.

**REDUCE LEPTOSPIROSIS LOSSES**

Terramycin in swine feeds helps *reduce instances of abortion, gives higher survival rate with healthier and heavier newborn pigs, reduces urinary shedding of leptospirae and aids in maintenance of normal weight gains and feed consumption* in the presence of porcine leptospirosis. Feeds should be fortified at the rate of 500 grams of Terramycin per ton of complete feed intake and fed for a period of 7-14 days approximately one month before farrowing.

### YOUR BRAND SHEEP FEEDS

**BETTER GAINS AND FEED EFFICIENCY**—Terramycin* can help *increase rate of gain and improve feed efficiency* when fed during the finishing period. Feeds should be formulated so as to supply 10 to 20 grams Terramycin per ton of complete feed intake.

**LESS SCOURS**—Terramycin helps *prevent or treat Bacterial Diarrhea* (also known as Infectious Scours, Lamb Dysentery, White Scours of Lambs, Salmonella Dysentery, Paratyphoid Dysentery, Navel Ill and other diarrhea associated with Bacillary Infections). As an *aid in the prevention* of *Bacterial Diarrhea* feeds should be formulated to furnish 50 grams of Terramycin per ton of complete feed. As an *aid in the treatment* of *Bacterial Diarrhea*, feeds should be formulated to supply 100 grams of Terramycin per ton of complete feed intake.

**REDUCED ENTEROTOXEMIA LOSSES**—Terramycin aids in the *reduction of losses due to Enterotoxemia* (over-eating disease). Formulate feeds at a rate to furnish 25 mg. of Terramycin per head daily.

## MINK

### YOUR BRAND MINK FEEDS

**BIGGER PELTS**—Terramycin* is an aid in *increasing the size and weight of pelts*. Feeds should provide 20 grams of Terramycin per ton of complete feed, fed continuously from weaning to pelting.

**BETTER GAINS AND FEED EFFICIENCY** Terramycin can help *increase rate of gain and improve feed efficiency* when fed from weaning to pelting so as to provide 20 to 50 grams Terramycin per ton of total feed intake.

**CONTROL BACTERIAL DIARRHEA**—Terramycin is an aid in the *prevention* of Bacterial Diarrhea when fed at a rate to furnish 50 grams of Terramycin per ton of total feed intake. When fed at a rate to furnish 100 grams of Terramycin per ton of total feed intake, Terramycin is an aid in the *treatment* of Bacterial Diarrhea.

# Why you can offer your feeders greater

# ASSURANCE OF RESULTS

## when you formulate with

# potent Terramycin®

BRAND OF OXYTETRACYCLINE

- Many of the livestock and poultry problems for which medicated feeds are used are the result of *mixed infections.*
- Terramycin's unusually wide disease-fighting spectrum makes it the practical choice for your fortified feeds.
- It delivers powerful protection against primary *and* secondary disease conditions.
- And over 10 years of field use supply the important proof of performance your customers want and need.

When your customers buy an antibiotic-fortified feed, they want—and deserve—a feed that can cut disease losses fast . . . or can deliver potent protection against disease outbreaks . . . or can supply the other types of antibiotic benefits they want.

Under ideal conditions—if you were in the business of formulating prescription feeds—it could be possible to pick and choose to select the right drug to fight a specific, *laboratory-diagnosed* problem for each customer.

But under field conditions, neither the problem nor the infection is quite that simple.

The kind and number of bacteria that can cause disease or cut production varies from farm to farm. Many disease conditions, moreover, are *mixed infections* caused by many types of gram-negative or gram-positive bacteria, virus and other types of organisms.

For example, in one study of 187 field outbreaks of CRD, 15 other *primary diseases* were involved in the infection. And in another study, 18 types of *secondary organisms* were found associated with CRD outbreaks.

Since neither the feeder nor the feed manufacturer ever knows for sure which kind of disease-causing organisms the feed will be called on to fight, the antibiotic with the widest spectrum of activity gives the greatest assurance of results. And over 10 years of field proof of performance assures that potent Terramycin can do this job in your feeds.

If you would like more information about feed tag claims for your 1961 feeds or the many uses of Terramycin, your Pfizer representative will be glad to help.

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Hong Kong, Br. Cr. Colony

## 118 FEED FIRMS AID NATIONAL 4-H PROGRAMS

**WASHINGTON — A total of 118 feed industry firms in 28 states contributed to the "Service to Youth" programs of the National 4-H Club Foundation during 1960.**

**This announcement was contained in the 4-H Foundation's annual report.**

**J. D. Sykes, vice president of the Ralston Purina Co., St. Louis, took the leadership in developing the 1960 fund-raising project. The feed industry is one of six agri-business drives conducted for the foundation by the National 4-H Sponsors' Council, a group of business leaders interested in young people.**

## Ohio Equipment Firm Makes Assignments

SPRINGFIELD, OHIO—The Buckeye Incubator Co. of Springfield, manufacturer of incubators, mechanical feeders and poultry equipment, has announced several additions and changes involving company field personnel, according to Jack Hill, vice president of sales.

John H. Webb, regional manager of the Buckeye Incubator Co. in the Eastern Shore, the Shenandoah Valley, North and South Carolina, has been assigned additional responsibilities in incubator sales in Georgia.

Cy Wells, regional manager in Alabama and Mississippi, has been appointed to handle sales of incubators in Arkansas, Missouri, Oklahoma and Kansas in addition to his present duties.

Walt Zerkle has been appointed regional sales manager in Ohio, Indiana, Kentucky, Michigan, Illinois, Wisconsin, Minnesota, Iowa and Nebraska. Harry Rankin, whom Mr. Zerkle is replacing, retired Feb. 1.

Frank Laney has been promoted to district manager in North Carolina, South Carolina, the Shenandoah Valley and the Eastern Shore area. In Alabama, Arkansas, Missouri, Oklahoma, Kansas, northern Mississippi and western Tennessee, Vernon Singer will continue to supervise the sales of mechanical feeders and poultry equipment.

James E. Wells has been appointed district sales representative in eastern Alabama.

## To Expand Terminal

STUTTGART, ARK. — The Arkansas Grain Corp. has announced the start of work on an expansion which will make its terminal here the largest inland facility of its type in the South.

Although corporation officials declined to reveal the cost of the project, some sources familiar with construction costs estimated the expansion would cost almost $2 million.

Expansion plans call for 64-concrete soybean storage tanks with a capacity of 4 million bushels.

When the work is completed about Sept. 1, the facility will have a capacity of some 5,600,000 bu.—or about one-tenth of the state's annual soybean production.

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ONE-MAN OPERATION
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CEDAR RAPIDS, IOWA

## Vitamin A, Haylage to Get Top Billing at Indiana Feeders' Day

LAFAYETTE, IND. — Vitamin A requirements of fattening cattle and value of haylage for growing and fattening beef animals will command particular attention at Indiana Cattle Feeders Day, Friday, April 28, at Purdue University.

Sponsored by Purdue's animal science department and the Indiana Cattle Feeders Assn., the event attracted some 1,500 persons last year. Persons from 80 Indiana counties and 12 other states registered at the 1960 Cattle Feeders' Day.

The morning program, starting with tours at 8 o'clock, CDT, will be at the livestock research barn at the Purdue Farm Center, three miles north of the campus or one mile north of Bypass 52 on County Farm Road.

Visitors will have an opportunity to view results of half a dozen feeding experiments carried on with feeder cattle since last fall. Intensive Purdue research is attempting to define vitamin A requirements of fattening cattle. Many typical Corn Belt fattening cattle rations are being found deficient in vitamin A.

Haylage, a relatively new method of storing hay of 40-45% moisture content, in airtight structures, will be compared with other feeds, such as corn silage, grass silage and hay. Other research reports will deal with feed values of pelleted rations containing hay, value of hormone-like materials, supplemental amino acids and a new high urea 64% protein supplement.

Lunch will be served at the barn by the Purdue Block and Bridle Club.

An afternoon program will start at 1 p.m. in the new livestock judging pavilion at the Farm Center.

## Alabama Flour Mills Names Thomas White

DECATUR, ALA. — Thomas C. White has been appointed assistant general manager of the Alabama Flour Mills of Decatur.

Announcement was made by Claude I. Carter, general manager and vice president, Nebraska Consolidated Mills, parent company of Alabama Flour.

Mr. Carter praised Mr. White's 14 years of service to the company and said that in his new role, Mr. White's "outstanding abilities will be utilized to an even greater extent."

This will include supervisory work in customer, community and personnel relations. In addition, Mr. White will continue as manager, grocery products division.

Mr. White has previously served as sales manager of the feed division and grocery products division at different times.

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Carey Ev'r-Flo Salt was developed to insure efficient uniform mixing of salt *in any weather, under any conditions.* Carey uses a special process and a special additive — which has been designated FL9 — to coat each grain of salt.

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Contact your nearest Carey District office for information about Carey's exclusive 40 ton money back guarantee. Or write, Ev'r-Flo, The Carey Salt Company, Hutchinson, Kansas.

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*Write for Bulletin L-101A*

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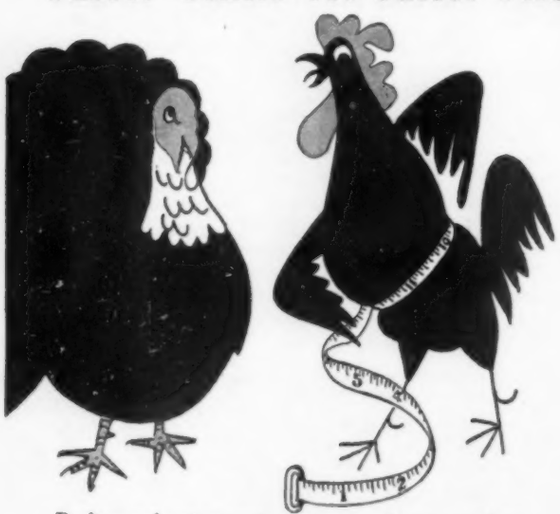

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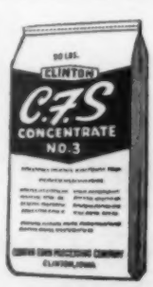


CLINTON CORN PROCESSING COMPANY

CLINTON CLINTON, IOWA

**KIEL MILL—This is the Kiel Mill, a landmark in the Kiel, Wis., area. It was operated by water power for many years, but now has electric power.**

# Wisconsin Feed Man Turns Old Mill into a Profit Maker

**By Al P. Nelson**
**Feedstuffs Special Writer**

Is there any opportunity in today's highly competitive custom milling for a man with limited capital?

In answering a question like this, the shrewdness and ingenuity of the custom miller must be taken into consideration, for good managerial ability has its way of handling difficult problems of many types and coming up with a surprising profit.

Take the case of Lee Petrie, a young man, 26, who is the owner of the Kiel Mill, Kiel, Wis. This mill is a community landmark and has been for 75 years. It was equipped with water power, now supplemented by electric power. It's a large, roomy mill, with lots of storage space.

Lee Petrie was working for another dealer in central Wisconsin when he heard that the Kiel Mill was for sale. The owner, operator of a highly successful mill some 50 miles distant, had operated the Kiel Mill as a sideline and now wished to concentrate all activities on his main mill and its production.

After considerable negotiating, Mr. Petrie bought the Kiel Mill for $11,000, building and equipment. The equipment consisted of a 60 h.p. burr mill, a 1½ ton mixer, a molasses blender and a seed cleaner.

Mr. Petrie tackled his feed mill enterprise with determination. The former manager operated with three men. Mr. Petrie cut down to two employees, he cleaned up the mill and the office and small farm supplies section and restocked the latter, adding many new products. He also bought a second ton and a half mixer for $300. That gave him two mixers and enabled him to give farmers faster service.

**Visited Farmers**

Then he began visiting the farmers in the region and stating his case, telling them he wanted their business and thought he could give them A-1 service. He stuck at the job, visiting farmers during the day and at night. He made an impression. Farmers liked his sincerity and his resolve.

He pointed out to them that his grind and mix rates, 8 and 5¢, respectively, were low. On a ton and a half dairy feed mix, Mr. Petrie charges $4.16. There are 32 bags of cow feed to a ton and a half mix. At 13¢ this works out to $4.16. If the farmer wants Mr. Petrie to pick up his feed, it's $1 extra, a total of $5.16.

He convinced many farmers to haul in their own feed and save the pickup and get the feed for $4.16 for a ton and a half.

Today, Mr. Petrie has over 70 steady grind and mix customers, only five of whom want pickup service. Most customers like to save money by hauling in their feed to the Kiel Mill. And they like the cheerful, snappy service which the new management gives them.

**Scientific Feeding**

Now that Mr. Petrie has upped his grind and mix volume, he still visits farmers, by himself, and also periodically with a feed company salesman. He is now trying to get farmers to balance their feeding programs more closely on the basis of new feeding recommendations. Such selling is helping farmers to understand scientific feeding better and is boosting Mr. Petrie's concentrate sales as well.

To meet the demand for grain bank storage by some of the large dairy farmers, Mr. Petrie has come up with a clever idea. Kiel Mill has four large bins, holding about 50 tons each, which were used for grain storage in former days. Now he is going to put dividers into these large bins and make 12 storage bins out of them. Thus he will have considerable grain bank storage for 12 large dairy farmers in the area and this will help stimulate continuous grind and mix at certain times of the year.

"I am trying to make use of what storage we already have in this old mill so I can give better service to farmers," Mr. Petrie says. "Some of this grain for storage we can haul back from farmers when we are out that way with feed or other deliveries."

Mr. Petrie has expanded his line of farm supplies. He has a large number of household and barn brooms stacked against the walls. Almost every farmer who comes to the office is asked, "Need a broom?" Thus Mr. Petrie makes many extra sales. "I make almost as much profit selling a

**NEW OWNER—Lee Petrie, new owner of the Kiel Mill, is shown here outside the mill building. He formerly worked for another dealer 50 miles distant, then got the desire to go into business for himself.**

barn broom as I do selling a couple sacks of feed," he states. "So it pays to push brooms, too."

**Feeder Meetings**

Mr. Petrie is setting up periodic meetings for special feeders, such as dairy, hog and chicken raisers. Purina is helping him conduct such meetings at local restaurants and halls. About 25-30 farmers attend each time and feed problems are discussed in detail.

"I am going to make certain that all the farmers who want to know more about better feeding have an opportunity to learn about it," says the youthful mill owner determinedly. "Already such a program is building more business."

What are the financial results after nine months of this sort of operation?

Mr. Petrie says he is paying off $600 per month on the purchase of his mill. He also pays all running expenses including salaries for two men and himself. In addition he is also accumulating a little capital for further mill improvements—all from current business receipts.

"I knew it would be a challenge to take over this mill and make it a profitmaker," he says, "but I am pretty well satisfied with the results so far."

## Downgrading Costs Delmarva Double Condemnation Loss

COLLEGE PARK, MD. — A recent study on downgrading of broilers indicates that this is costing Delmarva's broiler industry about twice as much as condemnations, according to University of Maryland specialist.

Dr. Norman Helbacka, poultry department, and John Crothers, department of markets, said many consequences reflecting broiler quality are not measurable in dollars and cents at this time, but a tabulation of those that are measurable indicated this loss through lower quality poultry.

One third of the broilers in the study failed to meet requirements for Grade A. Causes for downgrading were: bruising, breast blisters, fleshing, misbled, general discoloration, and a number of other minor causes, the two specialists said.

This study was conducted at six poultry processing plants on the Delmarva peninsula using random sampling techniques that are employed in statistical quality control. A total of 23,200 birds from more than 220 flocks were examined for defects. These samples were drawn from flocks totaling over 2 million birds.

The researchers report that considerable variation exists in the amount of downgrading between flocks and between plants. A principal area for improvement in grading, this study indicated, would be in materially reducing the number of bruises by modernizing methods of catching, transporting and unloading, and stressing certain areas of poultry management. Since fleshing is such an important factor affecting the quality of poultry, more careful studies should be made of bird source and management practices which may affect fleshing, as well as disease, which undoubtedly influences the amount of fleshing on the bird, the men said.

Other possible improvements appear to be in the area of processing procedures, the specialists point out. Improvement in the area is needed as operational bruises, cuts and tears and misbled and general discoloration are also important in the overall quality picture, they commented.

**CHECKING — Claude Arthur, left, federal-state grader, and James Howard, plant manager of an eastern poultry processing plant, take a sample on the processing line to determine broiler grade defects and quality level.**

## Canadian Feed Officer

TORONTO—J. K. (Casey) Clarke, Buckerfields, Ltd., Vancouver, B.C., has been appointed secretary of the British Columbia Feed Manufacturers Assn., according to W. N. Hendrick, national secretary, Toronto.

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**MARKETING CLINIC VISITORS**—Visitors at Purdue University's fifth marketing clinic, which studied marketing changes through research, included, from left to right, Geoffrey Sykes, Berwick, St. James, Salisbury, England, British poultryman; W. H. Erwin, Columbus, member of the Indiana Farmer Retailer Committee; Robert C. Graham, Washington, vice president of the Indiana Poultry Assn.; Hobart Creighton, Warsaw poultryman and Purdue trustee, and Harry Truax, Mooresville, president of the Indiana state egg board.

# *Increased Mechanization in Livestock, Poultry Feeding Operations Predicted at Purdue Clinic*

By BILL MADIGAN
Purdue University

LAFAYETTE, IND. — Livestock and poultry feeding practices and farm chores will become, in the near future, as completely mechanized as farm crop production is at present, according to a feed industry leader.

J. D. Sykes, vice president for public relations, Ralston Purina Co., made this observation in a speech prepared for delivery at the fifth Purdue University marketing clinic. Some 300 marketing personnel attended the day long conference.

However, Mr. Sykes was unable to keep the speaking engagement when the aircraft in which he was traveling couldn't land at the Purdue airport because of inclement weather. Copies of the speech were distributed to persons attending the clinic, devoted this year to discussion of marketing changes through research.

Mr. Sykes listed these trends in feed industry practices which will become increasingly significant:

"Feed marketing techniques aimed at helping the farmer make the most efficient use of home grown grains. This includes 'grain banks' and custom grinding and mixing.

"Feed merchants will have to continue to put heavy emphasis on service. 'One stop' farm supply dealership or 'super service center' will become increasingly attractive to the progressive feed dealer.

"Credit practices will tend toward more conservative bank credit and there will be fewer instances of businesses being bought by credit schemes."

Many commercial feeding operations have installed equipment to handle feed in bulk, thus eliminating much of the manpower required in feeding livestock and poultry, he pointed out.

"One fertile field for market research in the feed business during the next two years will be in the field of mechanization in the feed lot," he said.

The impact of total farm mechanization is reflected in reports of the Federal Reserve Bank of Chicago which show that $2,000,900,000 were allowed for depreciation on farm machinery in computing net farm income for 1958, he said. This was more than five times as much as was allowed for farm machinery depreciation in 1930.

### Displaced Ag Products

Marketing research may help find new uses for "displaced" agricultural products, Mr. Sykes believes. He defines "displaced" products as those supplanted or made obsolete by synthetics or other man-made items.

For example, detergents replaced soaps to such an extent that the 80% of our inedible fats and greases which once went into soap fell to less than 50%. That left a major volume of inedible fats without a market.

Market research soon discovered that these fats could be used in the manufacture of plastics to make plastic more flexible, he points out. Feed manufacturers also perfected their production technique to make possible the use of high levels of inedible fats in certain categories of feeds, adding efficiency to those rations.

Because the agricultural industry served by the feed industry is changing rapidly, the feed dealer or grain elevator operator or hatcheryman who hopes to make a profit will have to maintain an open mind and an alert outlook, Mr. Sykes believes.

From 1776 until 1960, some $105 billion was spent in America on research and development, according to Mr. Sykes. Almost half of that amount has been spent in the last six years. Estimates now indicate that research and development expenditures during the 1960's will be about twice as much as the total of all those in the previous history of the U.S.

"The feed industry's scope of usefulness and service will increase dramatically in the years ahead," Mr. Sykes declared. "It is part of the most basic business of all—the production of human food. Some day commercial rations may include meat tenderizing ingredients or even meat preservatives."

### Research Spending

H. E. Wilson, vice president in charge of advertising, merchandising and sales planning, Swift & Co., Chicago, told the clinic that American industry is spending $9.5 billion a year on research "simply because we can't do without it."

"We believe that to be more and more successful we must more and more determine the consumer's wants and needs and then direct our operation along these lines," Mr. Wilson added.

Mr. Wilson said the main responsibility for fundamental research (objective—increasing knowledge) rests upon independent scientists in both government and universities. Industry, he went on, has some responsibility to support this research.

"Practical or applied research is strictly an industry responsibility," said Mr. Wilson. "University scientists sometimes have a tendency to get side-tracked into product development. This can be dangerous because their talents can best be used in the areas of fundamental science."

### Poultry Changes

Discussing technological changes in the poultry industry, Dr. J. Holmes Martin, head of Purdue's poultry science department, informed a poultry marketing session that automation is becoming more important in poultry production, processing and marketing.

Phenomenal increases have occurred in the last few years in the number of broilers or turkeys raised or eggs produced per hour of labor, he declared. Similar advances are taking place in poultry processing and egg grading plants, Dr. Martin added.

Specification buying is coming more and more into the picture for all food products with the consumer writing the prescription, he concluded.

### Economic Trends

Dr. R. L. Kohls, Purdue agricultural economist, discussed over-all economic trends in the poultry, turkey and broiler industries.

These industries will expand output more rapidly than demand, and lower prices will result, the economist predicted. Broiler industry expansion will be more limited and gradual; the turkey industry expansion most dynamic.

Market pressures on specialized producers, which will develop for turkeys and eggs, will mean greatly increased activity on the part of integrators to organize and coordinate, the economist explained. Dr. Kohls added that pressures for some sort of production or market control also would develop.

### Bank Credit Advice

Speaking at the grain and feed marketing session, C. Richard Kellum, assistant vice president, Indiana National Bank, Indianapolis, advised the managers of elevators, feed mills and farm supply establishments

to do the following when arranging for bank credit:

—Establish their net worth position.

—Show clearly the purpose for the requested credit and timing of the needed amounts.

—Give the source and time of repayments.

Mr. Kellum said the best way to inform the banker is not only to supply a financial statement, but also pro forma sheets showing the planned profitability of the investment.

J. C. Metzger, South Whitley elevator manager, told the same commodity session that elevator, feed mill and farm supply management should establish a clear credit policy. This policy should apply equally to all customers and management should "follow through" on all accounts receivable, he asserted.

Dr. Don Paarlberg, former economic advisor to the White House and presently distinguished professor of agricultural economics at Purdue, briefly reviewed proposed feed grain national legislative programs.

Another commodity session dealt with livestock and meat marketing.

Mrs. Bea Johnson, director of women's activities, KMBC Broadcasting Co., Kansas City, speaking at the clinic luncheon, pointed out that 87¢ of each consumer dollar is spent by women. She advised her listeners to learn what motivates women's buying and make their sales appeal to them.

## Trainload Shipment

DES MOINES—Sargent Calcium Co., Des Moines, Iowa, observed its fourth anniversary with the third annual trainload shipment and a banquet.

E. I. Sargent, president, announced a continued growth in the number of carload orders for the special train; 85 in 1961, as compared to 71 in 1960 and 40 in 1959.

## *Hormone Product Said To Look Promising For Non-Ruminants*

BROOKINGS, S.D. — A synthetic hormone-like compound—said to be similar to a natural male sex hormone but with much less tendency to cause masculine characteristics—looks promising as a substance to increase rate of gain of non-ruminant animals, according to South Dakota State College researchers.

Preliminary experiments with the compound, called Nilevar (17 a ethyl-19-nortestosterone) have been run with rats.

Dr. L. D. Kamstra, associate professor of animal husbandry, and M. M. Thurston, former graduate assistant, reported in a recent South Dakota State research publication that this particular hormone product has the following factors in its favor:

1. Produces significant increases in weight gains with female rats, with the possibility that it might perform similarly with swine.

2. Has very little tendency to produce undesirable side effects.

3. Appears to be very palatable since no difficulty was encountered in getting animals to consume feed at any of the levels of treatment.

4. Has already been used with human subjects so would be less difficult to obtain approval as a feed additive.

Future experimental work, the scientists said, should include work with swine and a determination of the response of castrated males to this hormone treatment.

In reporting on the work, the researchers noted that increased weight gains in ruminants by hormone implantation or feeding have not been equalled with non-ruminants. For example, stilbestrol has little effect on gain with non-ruminants, and in many instances decreased gains result.

South Dakota State, however, has been interested in Nilevar. Previously this hormone-like substance has been used to promote weight gains in underweight human subjects and to assist in tissue repair following tooth extraction.

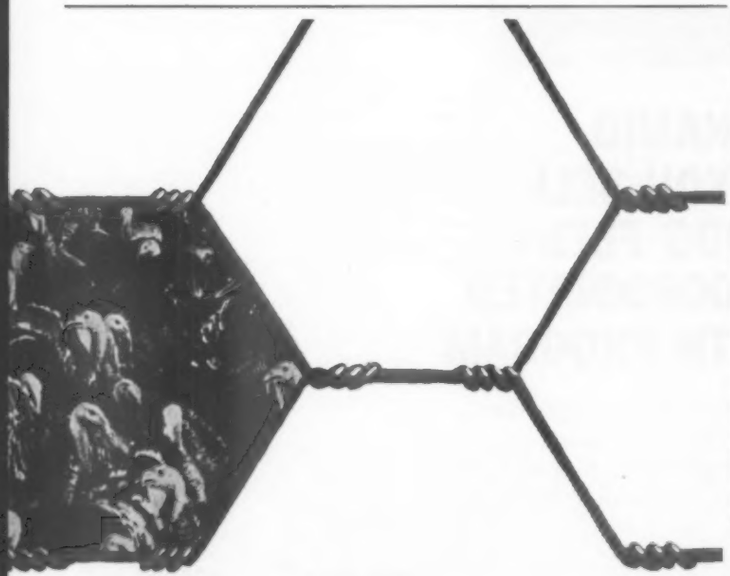
In two preliminary experiments at Brookings, 50 male and 50 female weanling rats were fed various levels of the hormone mixed with a finely ground commercial laboratory rat diet. The results indicated that gains of female rats were increased with added level of hormone. This was not true of uncastrated male rats, however, since only the lowest level showed a slight benefit over the control group.

Average weight gains in females were: Control, 127 gm.; .0002% Nilevar in feed, 132 gm.; .001% Nilevar, 141 gm.; .002% Nilevar, 147 gm.

For males, the corresponding figures on average weight gains were: 176 gm.; 179 gm.; 171 gm., and 169 gm.

In a third experiment, 100 female weanling rats were used to test higher levels of hormone treatment. The results again demonstrated the response of female rats to hormone treatment, and the researchers said it would appear that even higher levels of hormone might further increase weight gains. In this test, average weight gains were: control, 102 gm.; .001% Nilevar, 124 gm.; .002% Nilevar, 130 gm.; .003% Nilevar, 134 gm.; .004% Nilevar, 138 gm.

As a means of comparison, 10 male and 10 female rats were fed .5 mg. of stilbestrol per pound of feed over the same experimental period as the rats in the other experiments. The results agreed with those of other workers in that no positive response was obtained; in fact, the males gained 77 gm. less and the females 38 gm. less than the controls.

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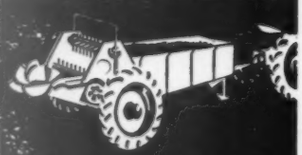

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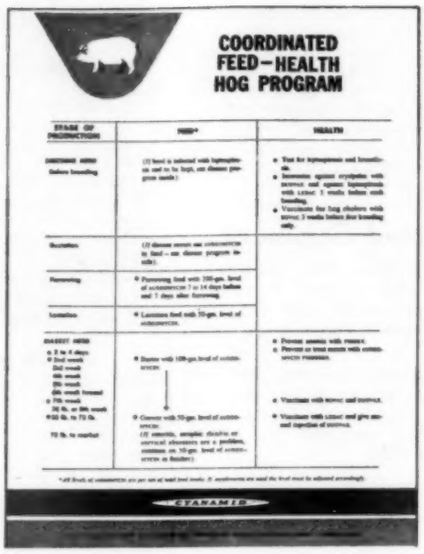


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*What important new feed can you offer now as a vital part of this program? Cyanamid suggests a specially-formulated farrowing feed containing Aureomycin—and furnishes proof of effectiveness.*

Cyanamid's new, advanced concept of a complete, step-by-step, feed-health program is the soundest, most practical way for your swine producers to raise more pork at less cost. The advertisement on the opposite page tells *how* and *why*.

This feed-health program can also be a potent sales builder of feed sales tonnage for feed manufacturers and dealers. It offers a *different* way to provide more service to old customers and get more customer loyalty in return. It opens up many inviting opportunities to seek new customers with a modern, up-to-date program.

### Biggest opportunity now? Farrowing feeds

Right at this time, alert feed manufacturers are not only making their normal seasonal push on lactation and starter feeds—*they're doing something more to build tonnage.*

They're producing specially-formulated, complete farrowing feeds . . . and *selling 50 to 100 pounds per sow.*

Research and field observations have convinced these feed manufacturers that sows are "reservoirs of infection." Special protection is needed before, during and after farrowing if sows are to produce more healthy pigs and raise them to weaning.

These farrowing feeds are specially designed to help prevent constipation, mastitis and metritis. And they contain AUREOMYCIN® at 200 grams per ton of ration to surround sows and pigs with a *solid wall* of protection. AUREOMYCIN minimizes trouble at farrowing, helps eliminate bacterial infections from the sow and her environment—and from her newborn pigs.

### 13 litters from 12 sows!

Controlled experiments conducted on seven farms in Iowa, involving 176 sows and their litters totalling 1523 pigs, revealed remarkable results with AUREOMYCIN fed as recommended in steps 2, 4 and 5 of the Coordinated Feed-Health Program, shown at the right.

Specific objectives were to determine the combined value of: (1) feeding sows 200 grams of AUREOMYCIN per ton of ration 7 to 14 days before and 7 days after farrowing; (2) feeding sows 50 grams of AUREOMYCIN per ton of ration during lactation; and (3) feeding baby pigs 100 grams of AUREOMYCIN per ton of pig starter from 3 to 8 weeks of age.

*Results showed 9 more pigs weaned per 12 sows from the group fed AUREOMYCIN.* That's a big extra litter—at least $135 extra potential income at weaning!

### Write for additional literature

If you wish extra copies of the special folder which describes the Iowa experiments, write to Cyanamid. Also ask for new hog booklet, "How to Raise More Pork at Less Cost." Distribute copies of both of these to your hog raisers, together with the folder describing the Coordinated Feed-Health Program for hogs. American Cyanamid Company, Agricultural Division, New York 20, N. Y. ®*AUREOMYCIN is American Cyanamid Company's trademark for chlortetracycline.*

***This month,*** **your prospective customers are reading the advertisement shown here. 4,934,500 impressions in leading national, sectional and state farm papers. They also are listening to well-known Farm Directors tell the benefits of the Feed-Health Hog Program on 40 radio stations throughout the country.**

# HOW TO MOBILIZE AGAINST YOUR BIGGEST RISK TO HOG INCOME

*That risk is disease. This Coordinated Feed-Health Program prevents diseases from establishing "beachheads" on your farm. It's a practical program! Follow it step by step and you'll see.*

*Half-way measures* are just not enough! Pork producers need to go all-out . . . to *mobilize* every resource to guarantee a profitable hog operation year after year.

This means selecting top-quality, blood-tested breeding stock. It means using good formula feeds, good management, housing and sanitation.

It means getting out there *every* day and "looking over" the entire herd to spot signs of disease. It means moving fast to close loopholes. It means being alert to *sense* the presence of disease even when you can't *see* it.

*Disease, visible or invisible, is by far the biggest risk to profitable hog raising. It can smash you at any production stage.*

Why gamble? You can lick most diseases before they start by following the coordinated, step-by-step plan shown on these pages.

This feed-health program is practical, easy-to-do and money making. It gives you this powerful *double-punch:* (1) Good formula feeds, *and* (2) the proper vaccines and medications. It shows you how to make them *work together smoothly* so that disease never gets a foothold in your herd.

Study each important step in this Coordinated Feed-Health Program. Discuss it with your feed man. Ask him for a free folder giving down-to-earth, how-to-do-it information on this swine feed-health program. If he doesn't have one, write direct to:

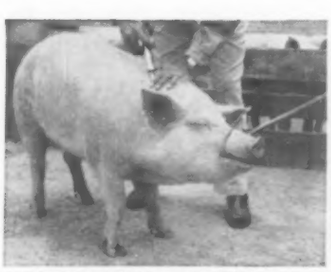
American Cyanamid Company, Agricultural Division, New York 20, N. Y.

*The label instructions on Cyanamid products, and on products containing Cyanamid ingredients, are the result of years of research and have been accepted by Federal and/or State Governments. Always read the labels and carefully follow directions for use.*

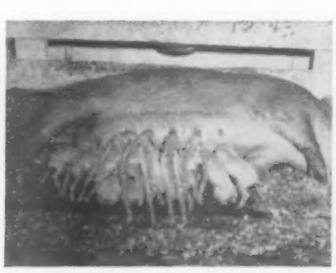
CYANAMID

**COORDINATED FEED-HEALTH PROGRAM**

*CYANAMID SERVES THE MAN WHO MAKES A BUSINESS OF AGRICULTURE*

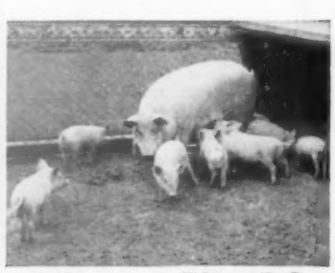


**1. Start the fight against disease before breeding.** Have your veterinarian blood-test for brucellosis and leptospirosis. One month before breeding, vaccinate for hog cholera with ROVAC® Hog Cholera Vaccine—for erysipelas with DUOVAX® Erysipelas Bacterin and for leptospirosis with LEBAC® Leptospira Pomona Bacterin. If testing shows lepto, feed 400 grams of AUREOMYCIN® per ton of total ration for 14 days to reduce abortions and mortality of new-born pigs.



**2. Strengthen farrowing sows when they need it most.** Always feed a good formula feed containing 200 grams of AUREOMYCIN 7 to 10 days before farrowing and 7 days after farrowing. You will have healthier sows that farrow more easily and produce more live, sturdy pigs. AUREOMYCIN helps eliminate bacterial infections from sows and their surroundings. Because AUREOMYCIN is absorbed by the sow, some of its power is passed along to pigs in the sow's milk.

**3. Preventing baby pig anemia is easy.** The one essential element lacking in sow's milk is *iron.* You supply this element, prevent anemia and obtain faster weight gains when you inject pigs with PIGDEX® Injectable Iron at 2 days of age. At the same time, give your pigs one dose of AUREOMYCIN PIGDOSER. In this way, you provide the wide-spectrum antibiotic to pigs at the earliest moment, before they start eating a dry feed – to help prevent scouring and keep baby pigs thriving.

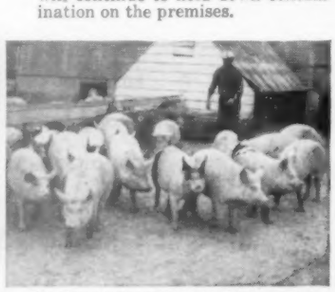


**4. Keep sows milking well.** During lactation, your sows need plenty of energy, proteins, minerals, vitamins and AUREOMYCIN to maintain the strength of themselves and their pigs. Feed AUREOMYCIN in a well-fortified lactation ration at 50 grams per ton of total feed. This will keep sows healthy and reduce bacterial infections. Your sows will furnish more milk and more nourishment for pigs. And AUREOMYCIN will continue to hold down contamination on the premises.

**5. Getting pigs off to a good start.** Your starter feed is the most important swine feed you buy. It protects your pigs at the most critical period. Stresses such as moving, handling, weaning, vaccination and bad weather often lead to bacterial infections. Be sure your starter feed contains AUREOMYCIN at 100 grams per ton of feed. AUREOMYCIN prevents scours, saves pigs, helps eliminate runts.

**6. Don't risk hog cholera and erysipelas.** Don't gamble with these two costly diseases – make vaccination a "must"! Vaccinate (at 6 to 7 weeks) for hog cholera with ROVAC and – at the same time – for erysipelas with DUOVAX. ROVAC is a safe vaccine that provides long-lasting immunity to hog cholera. DUOVAX gives solid immunity to erysipelas. Keep pigs on starter feed for at least one week after vaccination.

**7. How to insure low-cost gains in growing pigs.** You want your pigs *to hold on to their early, healthy gains.* During the 35 to 75-pound period, pigs can still be retarded by bacterial enteritis, atrophic rhinitis, and "unseen" diseases. With AUREOMYCIN at 50 grams per ton of total feed, your pigs won't waste feed fighting these diseases—they'll *use* their feed efficiently to put on maximum gains at low cost.



**8. Final step: market more top-quality hogs earlier.** To avoid setbacks and save up to 40 pounds of feed during this final period, provide a supplement that will supply 50 grams of AUREOMYCIN per ton of total feed whenever trouble shows up. This protects against subclinical diseases, bacterial enteritis, atrophic rhinitis and cervical abscesses – keeps your hogs healthy. You market more top-quality hogs.

## Storage Capacity in Kansas Increases 5 Fold in 15 Years

MANHATTAN, KANSAS—One of the significant changes in agricultural marketing in Kansas in recent years has been the increase in storage capacity of the state's terminal elevators, country elevators, feed mills and flour mills, according to a report from Kansas State University.

Between 1945 and 1960 storage capacity in the state increased from 126 million bushels to 741 million bushels, according to figures in a recent study made by Gary Francis Sullivan, a Kansas State graduate student in agricultural economics.

And a couple of Mr. Sullivan's statistics give an idea of present storage capacity:

As of June 30, 1960, there was sufficient commercial storage space in Kansas to store the state's average annual crop of wheat, corn, grain sorghums, oats, barley and soybeans for two years—and still have space left over.

As of June 30, 1960, the Commodity Credit Corp. (CCC) owned 91% of the nation's wheat stocks. More than a third of these CCC stocks were stored in Kansas commercial elevators.

What is behind the huge increase in storage capacity? The principal factor has been the large scale government activity in connection with the price support program, Kansas State says. Prior to 1945 storage space was limited to the capacity needed to store crops between production periods and to balance year to year fluctuations in production.

Another factor which has tended to inflate post-World War II storage capacity has been the increased use of custom combines and of trucks. This has brought about a shortening of the harvest season and the necessity for greater storage capacity at country elevators, Mr. Sullivan's report said.

## *Dr. E. I. Robertson Comments on Use Of Added Vitamin A*

LANCASTER, PA.—A report on response of dairy cows to supplemental vitamin A—along with comments on use of stabilized vitamin A for other animals and birds—was part of a vitamin A discussion by Dr. E. I. Robertson of John W. Eshelman & Sons in a recent issue of a company publication.

In the company's Red Rose Dairy herd, the nutritionist said, one half of the animals received a booster type feed (Rumenator) at 5 lb. per head daily, supplying an additional 30,000 units of vitamin A daily per head.

"Even though the animals were on good pasture and were fed good quality roughage," Dr. Robertson said, "there is a marked difference in the haircoat, skin texture and 'bloom' of the animals receiving the additional vitamin A. Cows receiving the extra vitamin A are holding up better in milk production, and it is believed this evidence of more vigorous health will assist in breeding performance, even though the total amount of feed has been the same for all animals."

Vitamin A palmitate will receive increased use, Dr. Robertson indicated.

His comments on use of the vitamin for dairy cows were part of a discussion in which he reviewed various reports and theories on vitamin A deficiencies, problems in carotene losses or conversion and improved animal performance with supplemental vitamin A.

Dr. Robertson had this to say regarding conversion of carotene to vitamin A:

"The conversion of carotene to vitamin A is assumed to be on the basis of .6 microgram of carotene being equal to one unit of vitamin A. This ratio was developed with rats, and latest evidence indicates that this ratio probably holds true only for laboratory rats. Evidence published on other species indicates the following:

"Chicks—Recent tests at Ontario Agricultural College show that chicks use vitamin A 3 to 10 times better than carotene.

"Turkeys—Poults up to 8 weeks of age use vitamin A 8 times more efficiently than carotene.

"Swine—It is generally agreed that swine use vitamin A about 3 times better than carotene. In recent work from Kansas, blood levels of vitamin A were 5 to 8 times higher in animals receiving vitamin A than those getting the same level of carotene from natural sources.

"Dairy Cattle — Generally recognized that dairy cattle use vitamin A at least 5 times better than carotene. Feeding vitamin A to dry cows increased vitamin A in the colostrum 3 times and 2 times in the 3-day milk as compared to carotene.

"Beef Cattle — Use vitamin A 5 times more efficiently than carotene.

"Sheep—Reported to use vitamin A 3 times more efficiently than carotene.

"Mink and Foxes — Both species use vitamin A 5 to 6 times more efficiently than carotene."

## CAGED LAYER NUMBERS GROW IN TEXAS

**COLLEGE STATION, TEXAS — The number of caged laying hens in Texas has increased from 272,000 in 1953 to more than 5½ million in 1960, according to B. C. Wormeli, extension poultry husbandman at Texas A&M College here.**

**The annual figures showing steady growth of the number of caged laying hens in Texas follow: 1953, 272,000; 1954, 901,000; 1955, 1,243,000; 1956, 1,647,000; 1957, 2,406,000; 1958, 3,556,000; 1959, 4,787,000, and 1960, 5,682,000.**

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Merck Chemical Division, Merck & Co., Inc., Rahway, New Jersey.

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# Feed Men Tell How They Help Producers Market Eggs

**By Al P. Nelson**
**Feedstuffs Special Writer**

A thriving Ohio feed manufacturer who sells direct to farmers in certain areas and also has dealers in other territories reports that he is helping some egg producer customers get steady markets for their egg output.

He and his men visit supermarkets in certain areas and talk with buyers about quality eggs. Supermarket managers are told of quality egg producers to whom the firm sells feed and who wish markets. Often this feed man brings a supermarket manager and an egg producer together on a marketing arrangement. The feed man even furnishes the producer with free egg cartons with the feed firm's name on the carton. This, he says, is excellent advertising.

"The egg producers we recommend are men who supervise quality production very carefully and have proper facilities," says the feed man. "Their eggs are always satisfactory. Supermarket managers appear to be well satisfied with the quality of eggs they get from these men."

This feed manufacturer says he is convinced there are many towns and cities where supermarkets would rather buy quality eggs from local producers than import quality eggs. The quality angle is vital, and the local egg producer who can meet this need will find a local market, he believes.

"We like to sell feed to these quality egg producers," says the feed man, "because they generally pay cash for the feed we sell them."

### "What Else?"

If egg producers show a strong inclination to buy and install grind-mix facilities, this feed man helps them. He says he would rather keep them as concentrate customers than lose that business to others. By bringing the egg producer and the mill man together on a grind-mix set-up, this feed man usually gets the concentrate business.

"What else can we do?" he said. "During the past year we have helped about 15 egg producers buy and set up equipment like this. They can get a completely automatic mill for $630 to $950. With bin storage the cost might get up to $1,500. But a large egg producer can pay for this in one year out of feed cost savings. I never thought I would one day be helping an egg producer buy equipment which would lower feed sales for me, but they'll buy it somewhere. If I advise him and help him market his eggs, I'll still get a lot of the business."

### Premium for Coolers

Jack Osterman of the Jackson County Farm Bureau, Seymour, Ind., says the state cooperative is trying to promote quality eggs. To help patrons in this program, the cooperative pays a premium of 3-4¢ doz. to producers who have coolers. This premium eventually pays for the coolers. The cooperative sells the coolers and can arrange financing if the patron wishes. All eggs are graded at Indianapolis, he states.

Mr. Osterman also reports that there is an egg producer in Seymour who has a 3,000-bird laying flock. This producer is packaging and selling his eggs locally. Another producer with 5,000 layers has a working agreement with a dairy. These two examples indicate various ways in which egg producers are handling marketing of their products.

A custom mill operator in Ohio who has two mills, has gone into cage layer operations on a big scale. He tries to promote one-man egg producer setups, from 3,000 to 10,000 birds. If an egg producer has more than 10,000 layers, he must have hired help, this feed man states.

The egg producer who signs up with the feed man must use his brand of feed and agree to follow a planned program. All checks come to the feed man, who apportions payments to himself, the hatchery and to the producer. If the bank is involved in a loan then the dealer pays it, too.

The feed man also handles the marketing through a produce organization. If the producer needs housing, the feed man sells him a 30 by 128 ft. aluminum house. This will house 3,300 layers and the cost is $14,300. The farmer must bring water to the foundation, furnish drains and electricity. The houses include concrete workways. If the house is to be financed, the feed man, banker and customer work this out. The feed man will not accept any producer whose credit rating will not justify the loan.

"Under this arrangement," says the feed man, "I supervise the entire program. The egg producer is not an all-around business manager. He's a specialist. He needs a manager. I act as such for him and show him a monthly statement."

*EDITOR'S NOTE: Egg marketing is a much discussed subject in midwestern states. This report from the region, the second in a series of two articles, tells how some midwestern feed men are involved in quality egg production and marketing.*

### Special Ledger Sheet

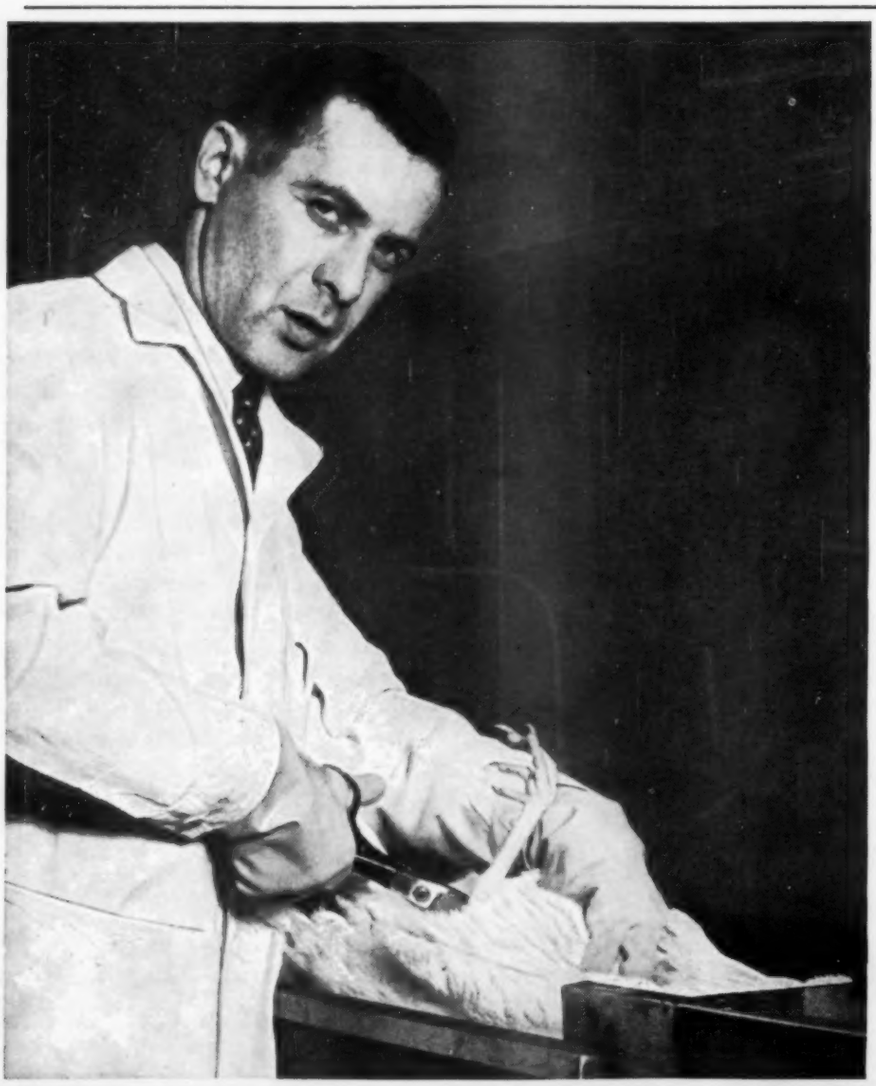
This feed man sets up a special ledger sheet for each egg producer under contract. At the top of the page he lists the farmer's investment. This may be $15,000, let us say. On this ledger sheet is placed the egg earnings per month, and then the yearly earnings and the rate of return on the investment. Accompanying the ledger sheet in a special book is a series of pictures on each producer's egg operation.

"We know and the producer knows exactly what profit he is making every month," says the feed man. "We have servicemen who check with him every week or two weeks and give him help when needed. I get paid for all this bookkeeping by developing egg producers who can make money and who buy more feed from me."

This dealer says his feed accounts are due in 30 days, unless financed. He handles a lot of his own finance paper. He charges 8% per annum interest which is 2% higher than the bank. "I do that so they'll hurry to pay me off," he says, "and it works."

He also reports that his customers' flock records show that when a flock first began to lay it cost (in 1960) about 27¢ to produce a dozen eggs. Then as the rate of lay became better the cost went down to approximately 21¢.

This feed man also notes that he is

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within 250 miles of Chicago. This 250-mile area, he says, is very heavily populated Thus, it constitutes an excellent nearby market for quality eggs. "That's why I'm pushing production of quality eggs and the marketing of them. This business has a future here."

The manager of a feed firm at Bicknell, Ind., says the number of small laying flocks in his area has declined the past few years. However, he feels that many of these small flock owners might come back into the picture if they were part of a well planned marketing group. He says he is making investigations about starting such a plan. It could even include small flock owners, if they bought coolers and followed quality egg control practices, he says.

A medium size egg marketing operation is run by Harrison Blankenship, a Professional Feeds dealer of Mulberry Grove, Ill. He has operated this program for seven years and buys eggs from about 80 producers. Then he trucks the eggs to St. Louis supermarkets. He has 12 large stores that buy eggs from him.

Mr. Blankenship says he sells about 200 cases per week in this manner, and his customers get about 1¢ above the St. Louis market. To stimulate refrigeration of eggs before shipping, Mr. Blankenship is now offering a premium of 2¢ doz. to producers who have such refrigeration.

"I've got one flock owner who has 3,600 layers," he says. "That's the biggest flock. About 10 other flock owners have flocks from 700 to 1,500 layers. A large number of my egg producers have only 200 to 300 layers."

Mr. Blankenship has his own egg grading station in Mulberry Grove, and he recently built a new poultry house where he houses 4,900 layers of his own. The building is 40 by 200 ft. The reason he built it is to show smaller producers that they can make a profit by handling an egg operation the modern way.

"I feel certain that this house will help to accomplish our purpose," he states.

Mr. Blankenship picks up refrigerated eggs on three country routes and figures to expand his operations. Farmers who have no refrigeration usually bring in their own eggs.

John Weaver of Weaver Bros. Co., Inc., Versailles, Ohio, egg marketing firm, says that in 1958 the average egg pickup from egg producers was 4-5 cases per week. Now it is 8-10 cases. This indicates the disappearance of the small Ohio layer flock, he says. The firm buys from 12 producers who have 100 cases per week. A few have 150 cases. "We now get more eggs from fewer customers and we are getting a better quality of egg," Mr. Weaver notes.

**Programs on Increase**

Mr. Weaver believes integrated egg marketing programs are on the increase. His firm is thinking of working out an arrangement with a hatchery and a feed manufacturer to handle such a contract growing and marketing setup. The firm handles about 320,000 cases of market eggs annually. Mr. Weaver says he needs to be certain that he can get this amount of quality eggs from reliable producers. Thus a contract plan with a hatchery and feed manufacturer may be the answer to all or part of the output.

Versailles, Ohio, has often been called the egg center of the nation. Mr. Weaver says that 5 to 10 years ago there used to be 12 poultry and egg firms operating in this community. Now there are four. But these four firms pick up 34,000 to 37,000 cases of USDA graded market eggs per week from a territory of 25 miles radius.

"The Ohio egg market is not saturated," says Mr. Weaver. "Eighty per cent of the eggs we ship are sold within the state or with overnight delivery. If a regular account buys 5-8-10 cases and is on a route we'll drop off that many cases. We have supers that use 60 cases per week."


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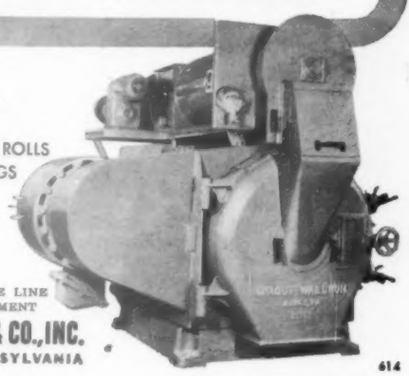

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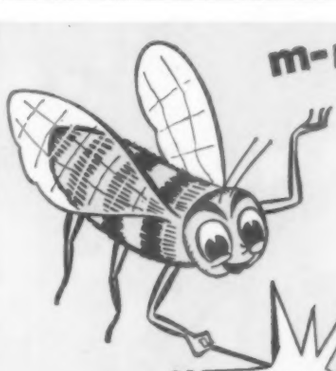

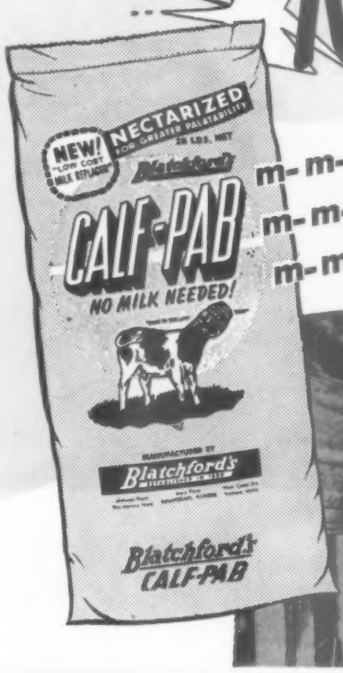


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# FDA Inspections, Egg Production, Grain Storage Surveyed at Nebraska Event

By THOMAS E. LETCH
Feedstuffs Staff

OMAHA — Despite a late winter snow storm that inhibited travel, approximately 700 registered for the 33rd annual convention of the Nebraska Grain & Feed Dealers Assn. held in the Omaha Civic Auditorium March 8-9.

Sam A. McMaster, South Sioux Grain Co., South Sioux City, Neb., is the new president of the association, succeeding Ray Cogil, Ogallala Grain Co. Elected as vice president was W. C. Pflug, Pflug Grain Co., York. Elected as new directors were William Mlnarik, Dodge (Neb.) Grain & Lumber Co., and Errol Tredway, Columbus (Neb.) Grain Co., Inc. Re-elected as directors were E. F. Ham, Independent Elevators, Inc., Benkelman; Don Huck, Ace Fuel & Grain, Norfolk, and Larry A. Weeke, Farmers Union Cooperative Mill, Superior. Howard W. Elm was reappointed secretary.

Among the points made by speakers on the program were these:

- Anyone who is mixing or manufacturing feed, whether he is a large or small operator, can look for an inspection by Food and Drug Administration agents.
- Commercial egg production in the Midwest is due for a big expansion in the years to come, but first more of the backyard flocks must disappear.
- Grain storage space is expected to be in short supply in the Midwest by next fall.
- Agricultural chemicals are vital to today's farming operations.
- Farm stores will have to expand their operations wisely to keep from over-extending.

### FDA Inspection

The program got underway with a panel discussion on FDA inspection of feed plants moderated by W. T. Diamond, secretary, American Feed Manufacturers Assn., Chicago. Panel members were Charles S. Johnson, O. A. Cooper Co., Humboldt, Neb.; Harold Fouts, G. E. Conkey Co., Nebraska City, Neb.; Clarence O'Brien, the Crete (Neb.) Mills; Leroy Schilt, Ralston Purina Co., St. Louis.

Mr. Diamond pointed out that the use of feed additives has changed the way feed business is operated. "There is a need to be more careful in the way feed is mixed and handled because of the chemicals it contains. The feed industry is not interested in adding something harmful to feed. It is just as concerned as FDA with the health and welfare of its customers' livestock and the ultimate consumer. And the industry carries its concern one step further—the feed must be capable of giving good feed efficiency which ultimately benefits the consumer in lower food prices.

"A lot of people who feel that the FDA regulations are just for the big feed manufacturers are in for a rude awakening," said Mr. Fouts. "If you buy any drug or additive that crosses a state line, you come under the FDA regulations," he emphasized.

Mr. Fouts told what the FDA inspectors had asked for when they visited his mill. This included approved drug applications, formulas for every feed, tags and proof that the feed containing the drugs was analyzed every 100 batches.

"Be sure that your tags and formulas agree," Mr. Fouts warned.

Other questions the FDA inspectors ask concern what the mill operator does with spills, with ripped bags and with pellet mill fines. The Conkey executive noted that the plant being inspected should make provisions for spills and fines so that it can assure the FDA man that spills of medicated feeds will not get into other kinds of feed.

"As inspectors get more and more experienced, I look for them to get tougher," Mr. Fouts said.

### "Quick Answers"

Mr. Johnson advised feed people not to wait until the inspector shows up before taking action. "Make sure your plant and files are in order," he said. "The inspectors want quick answers. They are subject to impressions, and if you can give them a good impression that you know what the problems are and that you are honestly trying to solve these problems, they may not give your plant such a thorough inspection."

Mr. Johnson also suggested, since many of the FDA inspectors are not acquainted with feed plants, that the man who is conducting the inspector around his plant take pains to point out the precautions that are being taken.

The FDA people are not just concerned with drug levels, Mr. O'Brien pointed out. The feed produced must correspond to the tag in every particular. "We must accept the fact that the FDA man calling on us is just trying to do his job."

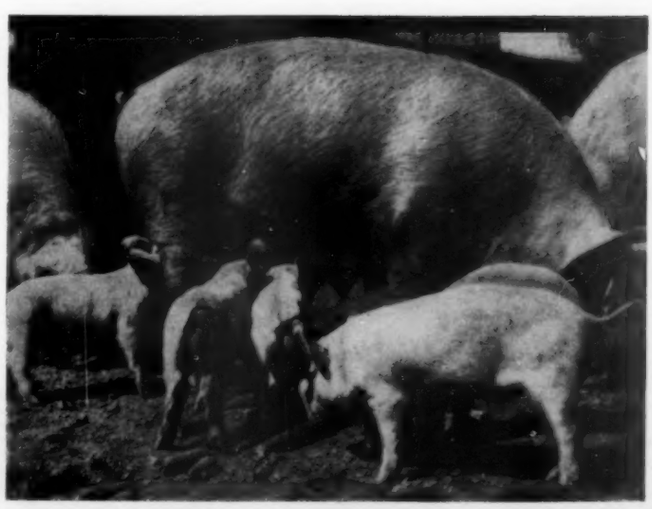
Mr. O'Brien noted that every feed manufacturer handling medicated feeds must have a mixer cleanout system. These procedures should be written down and posted in various key places around the plant.

Another point made by Mr. O'Brien was that the owner or manager of the plant is responsible for compliance with the laws, whether he is present at all times or not.

Mr. Schilt reemphasized the importance of making a good impression on the inspector. "Have the plant superintendent or manager with the inspector at all times."

The inspector is an information gatherer, Mr. Schilt continued. He sends his reports to Washington. Arguing with that inspector will do no good.

Which test proves the value



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In the storage and handling of premixes, Mr. Schilt suggested that every feed plant have a separate room for drugs. This room should be equipped with a good scale and complete inventory control records.

"It is very important to show the inspector how you check to see that the right drug gets into the right feed."

Mr. Schilt noted that Ralston Purina Co. has taken the position that its formulas are confidential information. It has permitted the FDA inspectors to look at the formulas but has not given them copies, nor let them photograph these formulas. "Our attorneys say we are within our rights," Mr. Schilt said, "but FDA may get the authority to demand copies of the formulas in the future."

**Bulk Feed Handling**

In the area of bulk feed handling, Mr. Schilt said that FDA regards the feed manufacturers as responsible to see that the bulk truck or car is cleaned out before loading to prevent contamination. Even the cleaning out of a farmer's truck is regarded as the feed manufacturer's responsibility. Also, FDA looks carefully to see that bulk bins are cleaned out completely before different feeds are put in that system. Even when a dealer is involved, FDA regards the feed manufacturer as responsible for that dealer's education in handling medicated feeds.

Mr. Schilt advised that tags be sent along with any bulk feed shipment so that these tags carry right to the feeder. The bulk shipment should be clearly identified and labeled.

If FDA takes a sample, it never reports back to the mill inspected if the sample met all the qualifications. And if FDA does find something wrong, it may be anywhere from 90 days to nine months before it issues a citation, the panel pointed out. Other advice given to the audience included:

**FDA INSPECTION PANEL—Those attending the Nebraska Grain & Feed Dealers Assn. convention in Omaha recently were given an insight into what to expect from Food and Drug Administration inspectors by a panel of feed people. Seated, from left to right, are: Charles Johnson, O. A. Cooper Co., Humboldt, Neb.; Clarence O'Brien, the Crete (Neb.) Mills; Leroy Schilt, Ralston Purina Co., St. Louis, and Harold Fouts, G. E. Conkey Co., Nebraska City, Neb. Standing is W. T. Diamond, secretary, American Feed Manufacturers Assn., Chicago, who moderated the panel.**

1. Keep a sample of the feed that FDA samples so that you can have it checked by another laboratory.
2. When FDA points out a problem, do everything you can to correct the trouble.
3. Don't expect the FDA inspector to let you pay for his lunch, even if he accepts your invitation to accompany you.

**Poultry Industry in 1960's**

"The poultry industry in the '60's" was the topic of Dr. John Adams, chairman of the University of Nebraska poultry department.

The farm wife who picks up pin money selling eggs is on her way out. But while the poultry industry is in a big transition to commercialization, Nebraska is lagging behind in this trend, Dr. Adams said. There are still 52,000 farms in Nebraska selling eggs. Those 52,000 farms, which do not rely on egg production as their primary source of income, furnish rough competition for the commercial operator who must make a profit from his layers or go broke, Dr. Adams said.

Other areas of the country have gone much faster to commercial egg production. As a result they have been producing higher quality eggs and getting higher prices for them, Dr. Adams said.

But despite the growth of egg production in other areas, Dr. Adams said that the Midwest will be producing a larger percentage of the na-

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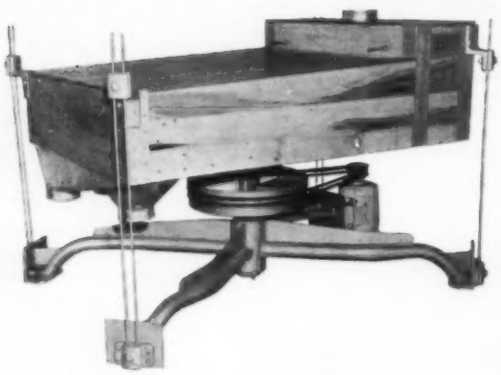

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**NEBRASKA OFFICERS—Sam A. McMaster, second from right, South Sioux Grain Co., South Sioux City, Neb., was elected president of the Nebraska Grain & Feed Dealers Assn. at its recent convention in Omaha. From left to right are Howard W. Elm, Lincoln, secretary; Ray Cogil, Ogallala (Neb.) Grain Co., retiring president; Mr. McMaster, and W. C. Pflug, Pflug Grain Co., York, new vice president.**

tion's eggs in 15 years than it does today. He compared the advantages that each area in the U.S. enjoys.

"The only advantage the Midwest has is in feed cost," according to Dr. Adams. "But this is a big one since 58% of the cost of producing a dozen eggs is feed cost."

**Equalizing Factors**

The Nebraska professor listed these factors that are tending to equalize the South with the Midwest:

1. Housing costs in the South are now approaching those in the Midwest because commercial operators are finding the better housing will last longer.

2. As the South becomes more industrialized, hourly wages will go up and unions may make their influence felt on the farms. The Midwest probably will be the last area to be unionized.

3. Now that the area demand has been satisfied in the South, eggs must be shipped to other markets.

4. Highway improvements being made help the Midwest more than any area.

Dr. Adams suggested some actions to help the egg production business in Nebraska:

1. Spend more time, money and talent on marketing to get volume production of quality eggs on a firm contract basis.

2. Adopt a better egg law so that producers are paid on the basis of quality delivered.

3. Legislate for an accurate market news reporting service so that a producer can know what his product is worth.

Dr. Adams pointed out how important the poultry feed customer is to the feed industry in Nebraska. The poultry feeders bought 156,000 tons of feed in the state in 1960, he said. On a national basis, he illustrated how big the poultry industry is by noting that annual egg production would make a path 11 eggs wide to the moon. And it would take a 40-ft. wide building 1,639 miles long to house all the broilers grown last year. Yearly turkey production would require a pole shed 50-ft. wide and 1,553 miles long.

**Tight Storage Situation**

Theodore H. Anderson, deputy director for programs, Commodity Stabilization Service office, Kansas City, talked about the "Storage Situation."

"We must prepare for a tight storage situation," he said. "We feel secure through the spring takeover, but later storage space will be extremely snug."

The CSS speaker said that commercial storage space in the area served by the Kansas City office had increased by about 148.5 million bushels from Jan. 1, 1960, to Jan. 1, 1961. More commercial space is expected to be built in 1961, but not enough to take care of the anticipated grain production at this date, according to Mr. Anderson.

To prepare for this tight situation, the Kansas City office is doing some reconcentration work and also is shifting some wheat to the Dallas and the Portland territories. Mr. Anderson said, however, that CSS


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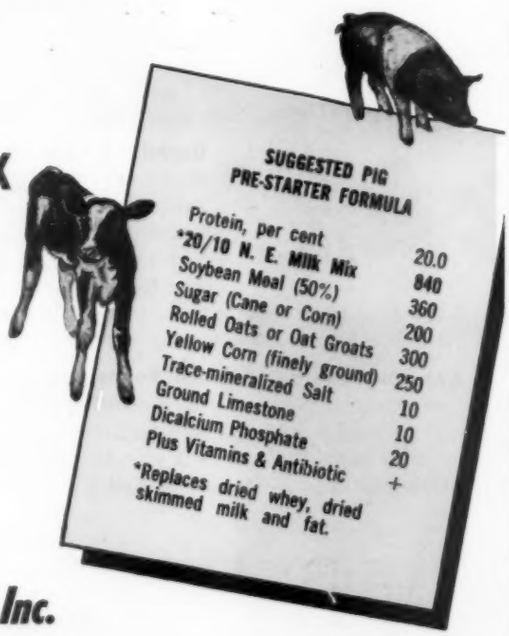
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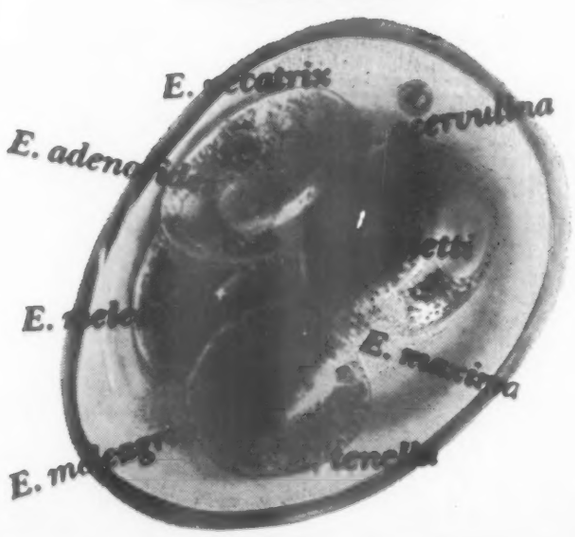


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did not want to ship any more to these other territories than could be used or exported.

**Ag Chemicals**

Herb Woodbury, president of the Midwest Agricultural Chemicals Assn., St. Joseph, Mo., presented an illustrated talk on the function and use of chemicals in agriculture. He pointed out that no chemical is intrinsically bad; that proper use makes even some noxious chemicals very beneficial. He noted that the association which he heads is working in legislative circles in Nebraska, Iowa, Kansas and Missouri, the four states which the association covers, and is aiming at improving the public image of chemicals and their functions in agriculture.

**Business Tips**

Suggestions on how to expand a retail business, how to regulate credit, and other management tips were given to the convention-goers by F. E. Hartzler, director, small business management, Kansas State Teachers College, Emporia.

The Great Plains area is losing population. Many small towns are fading away for lack of population. As these towns die, Mr. Hartzler continued, it will become practical for a farm supply center to serve the needs of the farmers in the area. This means that businesses that were previously operated independently will probably become a department of a farm supply center.

"If you fail to take over these services, somebody else will," Mr. Hartzler told the feed and grain men.

Expansion is always dangerous since cash goes out in the form of increased inventories and in a broader line of credit, he said. That is why it is important to set up a cash flow chart. Such a chart can tell a businessman whether or not he is in a position to invest in a new department. It will help keep him from over-extending himself.

Mr. Hartzler noted that the farmer is operating with credit more like other business people than ever before. As suggestions to the dealers on how to maintain a sensible credit program, the college professor made these:

1. Make out a credit aging chart each month.

2. Establish a regular follow-up pattern on delinquent accounts. Often you have to ask for payment before you will get it.

3. You don't do anyone a favor by giving him more credit than he can repay. You can establish this fact early and not give any more credit. Although you may lose 4% of your customers, these are the 4% that you don't want.

The business specialist also told the dealers how they could set up a regular buying program. "If you are not selling merchandise, don't buy," he stated.

Mr. Hartzler emphasized the need for departmental bookkeeping so that a business can be analyzed. One bad department is enough to ruin a business unless the situation is corrected, he said. Accurate records are especially necessary when times get tough.

"Your margins are ridiculous," Mr. Hartzler told the dealers. He said he had seen some variations in selling prices on the same items of as much as 18%.

"While you have the income from grain storage to work with is the time to build other departments which can carry your business if and when the storage business fades," he stated.

C. S. Force, president of the Grain & Feed Dealers National Assn., was scheduled to speak but was not able to reach Omaha because of bad weather.

Conducting the program sessions on the two days were Clarence Jacobson, Lexington (Neb.) Mill & Elevator Co., and Mr. Cogil, retiring president.

Nearly 50 exhibitors had displays in the auditorium.

Social functions of the convention were held at the Sheraton-Fontenelle Hotel.

## USDA Boosts Milk, Butterfat Supports

WASHINGTON—Orville L. Freeman, secretary of agriculture, has announced that, effective immediately and extending through the next marketing year, which begins April 1, 1961, prices to producers for milk and butterfat will be supported at $3.40 per cwt. of manufacturing milk and 60.4¢ lb. butterfat.

These prices are about 83% of the parity equivalent price for manufacturing milk, and about 81% of parity for butterfat, based on the latest parity data, reports the USDA.

The support prices are increased from $3.22 for manufacturing milk and 59.6¢ for butterfat in farm-separated cream in effect since last Sept. 17, it was reported.

## Abbott Labs Questions New Drug Regulations

CHICAGO—New laws and regulations "are imposing unjustified burdens on the drug industry in America," Abbott Laboratories told shareholders in its 1960 annual report.

George R. Cain, president, and Elmer B. Vliet, board chairman, said the regulations already are increasing costs without providing any appreciable gain to the health professions or the public.

The report questions the proposal of the Food and Drug Administration that inserts of complete information be placed in every prescription package. "This we regard as wasteful, since the physician rarely sees a package insert and the pharmacist rarely needs it. Both have access to adequate information now," the report declares.

Abbott says it fully agrees with and has long practiced the principle of "comprehensive disclosure" of all facts about drugs. It disagrees with the "unprecedented scope of regulations that increase advertising costs."

The report states that the drug industry "quite properly looks upon close regulation as necessary," but that Abbott "will continue to oppose excessive or impractical measures. Our concern is to re-establish the consistent use of scientific judgment."

In addition to regulations on advertising, the report is critical of new requirements involving food coloring additives, testing of samples, labeling, and interpretations of the Delaney clause, "which bans usage of all substances claimed to cause cancer even though they are harmless under all known conditions of use."

Mr. Cain and Mr. Vliet interpreted sales and earnings in 1960 as "somewhat below expectations." Sales rose to $125,968,000, 2.7% above the previous high of 1959. Earnings dropped from $3.32 to $3.16 per common share.

The decline was attributed primarily to higher operating costs in such areas as payroll and services, to the costs of handling a greater volume of goods and transactions, and to a 15-25% competitive reduction in antibiotic prices.

The report says that research costs, at $8,200,000 in 1960, will surpass $9,000,000 in 1961. During the year the company occupied its new research building, which more than doubles the space available for the scientific divisions, now numbering 800 persons.

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# Where Are We Going With Fryer-Roaster Turkeys?

By ROY FERGUSON
River Rest Turkey Sales, Inc.

The most unusual paradox in the history of the turkey industry is currently facing those people producing and merchandising turkey fryer-roasters. Turkey fryer-roaster consumption is currently approaching 100 million pounds annually . . . with a potential that has hardly been touched. And yet, one can already see rather obvious signs that the entire market demand may soon begin to fade away. The turkey industry certainly cannot afford to lose a 100 million pound market. To do so would virtually be economic suicide.

Roy Ferguson

If the turkey industry is to reap the benefits from a market that is huge in size, though still in its infancy, an abrupt about face must be made. We must take stock of the situation. Facts must be faced. Sound business methods must replace short sighted whims.

To begin with, the wants of the consumer can no longer be ignored . . . for in the final analysis the success or failure of any products rests squarely with consumer reaction. Actually, in this instance, the consumer's expressed wants are rather simple . . . a quality product, year round availability and competitive pricing.

Today, competitive pricing is the only requirement being met. This, in itself, demonstrates an important marketing principle . . . price alone will not sell. Repeat sales are built only on those products that are superior to their competition. The consumer must genuinely like a product or the product just won't continue to move . . . regardless of price.

What's wrong with the present overall quality of turkey fryer-roasters? Perhaps the major problem is inconsistency. In some geographical areas, the quality is outstanding . . . in other areas, woefully poor. Moreover, in those areas producing poor quality, neither the producer, the processor nor the financing feed companies seem to be greatly concerned. It should be emphasized that this lack of interest in consumer acceptance of the end product is being viewed with distinct alarm by many marketing specialists.

*EDITOR'S NOTE: The accompanying article delves into the question of market development for fryer-roaster turkeys in a very provocative manner. Mr. Ferguson, president of River Rest Turkey Sales, Inc., Shawnee, Okla., takes a definite position that marketing of large breed birds at lighter weights to fill demand for smaller birds does not serve the industry's best long-range interests. Some of his points, understandably, are controversial, but the article is presented as "one man's opinion" in order to stimulate further discussion on the subject. Mr. Ferguson, for example, does not mention the factor of "convertibility" in the present emphasis on large breeds. This allows growers to sell birds either as fryers or as full-grown birds, depending on market conditions. Also, his statement that attractive packaging of large breeds sold as fryers is not possible would be challenged by many. One poultry authority points out that an additional 2 to 3¢ lb. would be needed to make production of small breeds as profitable as large breeds, and processors generally do not pay a premium for the small breeds. However, he said there definitely would be interest in growing of more small birds if a premium price were available or if production costs for small turkeys were comparable to those for large breeds. Comments from readers are invited.*

Well then, what basically is being done wrong in the production of fryer-roasters that is resulting in low quality and adverse consumer reaction?

**Unsuitable Type Bird**

In most instances, the difficulty stems directly from using a type of bird that is totally unsuitable for the job. This is particularly true in those operations marketing large whites as fryer-roasters. Making fryer-roasters out of large whites is illogical for many reasons . . . regardless of the theoretical dreams of some breeders.

Being a breeder of large whites, too, I appreciate that many production problems would be greatly simplified if there were such a thing as an "all purpose" turkey. Unfortunately, there isn't an "all purpose" tur-

**ITALIAN POULTRYMEN—The Des Moines, Iowa, airport was the scene for this picture which shows two Italian poultrymen preparing to leave for other touring points of interest in the U.S. poultry industry. From left to right are Hugh Schwab, sales manager of Ames In-Cross, Des Moines; Dr. Joseph Valantines, head of poultry husbandry for Cip-Zoo, Brescia, Italy; Dr. Enea Guarneri, president of Cip-Zoo; and Martin P. Vorberg, president of United-Hagie Hybrids, Inc., Des Moines. Cip-Zoo is the Ames In-Cross hatchery-distributor in Italy and United-Hagie is the Ames In-Cross European export agent. Cip-Zoo is one of Italy's largest suppliers of broiler stock and processors of poultry. The Ames In-Cross distributorship will expand its operations to the layer field, it was reported.**

# ANOTHER FEEDER REPORTS

## *and recommends the use of OMALASS*

Bob Story

Bob Story of Newton, Illinois, adds Omalass to all his hog rations. At the recommendation of his dealer, Kennedy's Grain Elevator, Inc., Newton, 100 pounds of Omalass are mixed into each ton of pig starter. Omalass adds the extra sweetness and flavor to get the pigs on feed fast. Not only does Omalass add sweetness and flavor, but all the extra nutritional values found in molasses, too.

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## *Stock and Sell OMALASS and SCOTCH O LASS*

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**MISSISSIPPI OPERATION — Renovation and automation are currently underway at the Mississippi Federated Cooperative poultry hatchery, poultry breeder farm and feed mill shown above. The facility, located at Van Winkle, Miss., was purchased by MFC to service its "Better Egg" production program. MFC says that the feed mill has been manufacturing 3,000 tons of poultry feed each month. Plans are to convert the mill to a full line mill which will produce lines of feed for poultry, beef cattle, dairy cattle and swine. Pelleting equipment and additional bulk storage will be added, according to manager J. H. Womack.**

key . . . and likely never will be. The genetic requirements are just too inconsistent . . . virtually the same as expecting a station wagon to deliver bulk feed satisfactorily.

A fryer-roaster turkey must have small bones and acquire an extremely early finish. Attractive skin color is a necessity. Egg and poult costs must be at an absolute minimum.

Anyone who has been around turkeys very long knows that heavy varieties fill none of these requirements. Bone size is entirely too large to make an attractive package at fryer-roaster size . . . yet this large bone size is vitally necessary to carry the heavy weight for which the bird was originally designed.

Skin color is a problem that increases, or decreases, in severity according to the strain. Even the best strains of large whites, however, are unable to develop satisfactory finish on 12-14 week old males. Perhaps in the future special chemicals will satisfactorily eliminate the early finish problem. At the present, however, there is no fool proof method that is available. Even if there were, the presence of a good finish would not cover up the lack of desirable fryer-roaster conformation of large type immature males.

**Egg, Poult Costs**

When considering egg and poult costs, small or medium varieties are far superior to heavy varieties. The egg-feed ratio of meat type small whites, for example, is approximately 40% less than that of the very best reproducing large strains. When comparing meat type small white egg-feed ratios with most of the average reproducing large strains, the cost picture is even more drastic.

One may wonder why large strains are being used for fryer-roasters in the first place. Actually, there are two basic reasons. To begin with, large white breeding firms have pushed hard for increased sales. They quite naturally hoped that the large strains would prove as satisfactory in this field as they have in the tonnage field. Unfortunately, field experience has proven the large type fryer-roaster anything but satisfactory.

The second reason for the attempt to use large varieties, was that the grower felt a sincere need for increased growth rate. As profit margins narrowed, producers could no longer afford the poor growth rate of the average mass-produced Beltsville white. In addition, the average Beltsville's body conformation leaves much to be desired.

A natural solution to the whole problem seems rather obvious. Why hasn't some large commercial turkey breeding firm been working with high performance, fast growing, special fryer-roaster birds. This would provide parent stock in sufficient volume to deliver both uniform quality and minimum production costs.

**Correlation**

Surprisingly enough, high performance fryer-roaster breeding is available in volume . . . and on an industry wide basis. Unfortunately, some of the largest production areas have shown practically no desire to improve product quality through better breeding. In practically every instance, these are also the identical areas that are experiencing the greatest amount of consumer resistance.

No industry can grow to its full potential without complete and effective coordination of all its allied interests. The same principle applies to fryer-roaster production in the turkey industry. Fryer-roaster production, in particular, is usually developed on an integrated basis through specification contracts. As a result, the economic pressures of continued unwise decisions in any one phase of production or marketing are felt by every segment that contributes to the finished product.

At the present time, effective feeding programs are available . . . efficient processing is available . . . and specialized breeding is available . . . to do the combined production job right. The consumer has already demonstrated an eagerness for quality fryer-roasters. It is up to those concerned with the future of the turkey industry to make them available.

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FEEDSTUFFS

**ADVERTISING AWARD—The Ray Ewing Co. won first place among trade advertising exhibits and first place in the special advertising category at the Ad Fair '61, sponsored by the Advertising Club of Pasadena and San Gabriel Valley, Cal. Photo shows Paul Krueger, right, advertising manager of the Ray Ewing Co., winner of the first prize for trade advertising. At left is Dr. Thomas Leavitt, Pasadena Art Museum director, who is holding the winning entry. Mr. Krueger also received the first annual Pauline Derby award, a silver derby and lapel pin presented to the person who performs the most outstanding service for the club each year.**

## Idaho Group Names D. C. Jones Manager

TWIN FALLS, IDAHO — D. C. Jones has been named general manager of Idah-Best, Inc., formerly known as the Idaho Egg Producers Assn. The name change was approved by a 182-7 vote at the group's annual convention held here.

D. C. Jones

Mr. Jones succeeds L. R. Davis who resigned his post in order to devote more time to personal interests. Mr. Jones has been office manager for Idah-Best, Inc., for the past 14 years. He joined the group in 1938.

Mr. Davis, in giving his last management report at the group's annual meeting, said that sales volume of feed totaled 355,000 cwt., which is down slightly from 1959, but was still the second highest volume of feed in 37 years.

Egg receipts were down again for the third consecutive year. Mr. Davis reported that 40,093 cases were handled in 1960. The egg marketing picture, he said, has changed during the past 10 years and more and more large producers are going direct to retail markets and to other retailers.

Other business at the annual meeting included approval of an amendment to change the name of the association to Idah-Best, Inc. This change was recommended by the group's board of directors as the association is no longer primarily an egg marketing cooperative, but manufactures and sells feed for all poultry and livestock.

**WAREHOUSE CONSTRUCTION**

WEBSTER, MINN.—Construction of a new feeds-fertilizer warehouse building has been announced by the Webster Cooperative Dairy Assn. The new building is now under construction at Prairieville.

## AMA Speaker Named

FAIRBURY, ILL.—The American Management Assn., Inc., an organization for advanced business education, has asked Robert B. Concannon, financial vice president and controller, Honeggers' & Co., to assist in leading a seminar for AMA in New York City during May.

Mr. Concannon received his B.Sc. degree from the University of Iowa and C.P.A. certificate from the University of Illinois. He has been controller of Honeggers' since February, 1957, and was elected vice president in July, 1958. Prior to joining the Illinois livestock and poultry feed manufacturing company, Mr. Concannon served as controller of a finance company in Davenport, Iowa. Before that he was engaged in public accounting.

**CREAMERY BUYS MILL**

MONTICELLO, MINN.—The Monticello Cooperative Creamery Assn. has purchased the Monticello Feed Mill from Linn Mitchell.


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COLORADO DIRECTORS—The board of directors of the Colorado Grain, Milling & Feed Dealers Assn. is shown here following its 36th annual convention. Back row, left to right, are Dale Reimer of Holyoke, Howard Stehwein of Monte Vista, Harold Johnson of Ft. Collins, James Rawson of Burlington, Al Gamble of Denver, Don Briggs of Haswell, Leonard Henderson of Craig and Hubert Kohlmeier of Yuma. Front row, left to right, are Terry Hall of Akron, Floyd Borders of Stratton, Bob Davis of Colorado Springs, Del Ellis of Wheatridge, Jack Malo of Denver, and Ken Lloyd of Denver.

## Nutrena Introduces New Feed Computer

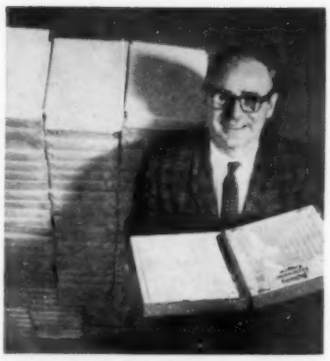
MINNEAPOLIS—A new portable, hand-operated computer said to be capable of formulating precisely more than 187,000 separate livestock and poultry diets has been introduced here by Nutrena Feeds.

The device, called a "customatic computer," was designed by Nutrena for retail dealers equipped to blend mill-produced concentrates and farm-grown grains into feeds of specific nutritional content.

Charles F. Hicks, concentrate service manager, said several hundred dealers will receive computers in the coming month at special sales schools in Nutrena's 26-state marketing area.

"It's more important today than ever before that farmers, ranchers and poultrymen produce animals at the lowest possible cost and in the fastest possible time," Mr. Hicks said.

"This computer will be an important tool in helping make certain their feeding programs are tailored to the animals' exact requirements," he predicted.



FEED COMPUTER — More than 187,000 different, precisely balanced animal feed formulas—four for every sheet of paper stacked in the pyramid shown above—can be calculated by Nutrena Feeds' new hand-operated "customatic computer," company spokesmen say. Here Charles F. Hicks, feed computation manager, Minneapolis, holds the briefcase-sized device designed to calculate formulas based on blends of commercial concentrates and farm-grown grains. The unit is now being distributed to retail dealers in Nutrena's 26-state marketing area.

Mr. Hicks said the device has been in development "for nearly a year" and that its concentrate formulas have been analyzed and tested for accuracy in Nutrena laboratories.

The computer, approximately the size and shape of a small briefcase, uses three sets of tables: one showing nutritional requirements for various farm animals, a second showing protein levels attainable by mixing grain and concentrates, and a third showing the amount of concentrate needed to fortify a given quantity of grain.

Dealers will be able to calculate feeding programs for all farm animals, Mr. Hicks said.

## Canadian Shipments Of Feeds Decline

OTTAWA—Canadian shipments of concentrate, complete and other feeds declined in 1960, according to figures announced here.

Shipments of primary or concentrated feeds in 1960 declined 6% to 441,513 tons from 469,699 in 1959, secondary or complete feeds 3.6% to 2 520,142 tons from 2,614,881, and all other animal feeds 5.9% to 539,-355 tons from 573,164.

December shipments of primary feeds were up to 44,276 tons from 43,951 in the corresponding 1959 month, while shipments of secondary feeds were down to 220,214 tons from 223,458 and all other animal feeds to 35,434 tons from 49,850, according to the report.

### IOWA FEED MANAGER

WINTERSET, IOWA—Charles Crawford of Winterset has been named manager of the Adair (Iowa) Feed & Grain Co. He will manage two combined elevators with a 250,-000 bu. grain storage capacity.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# UP OR DOWN

By Dr. Leonard W. Schruben, Agricultural Economist, Kansas State College

## Cattle Numbers Revised

You can start learning some new figures on the numbers of cattle on hand in the U.S. Despite revisions, the numbers on hand Jan. 1, 1961, hit a new record. The count, however, shows fewer than the 100 plus million head that had earlier been estimated. Cattle numbers have followed fairly well defined cycles. Getting acquainted with these patterns can help you look ahead.

If you are confused by the changed report of number of cattle in the U.S., you have company. The changes you've been reading about are the result of the 5-year revision in agricultural statistics.

We will be having many revised data this coming year. Every five years there is an agricultural census. Supposedly this is an accurate count of head, bushels and bales. In between these reports, the U.S. Department of Agriculture makes estimates of changes which occur.

When the census figures are tabulated the in-between estimates are compared and when the two are different an adjustment is made, this adjustment is extended back for the period since the last census.

### Big Adjustment

The adjustment in the cattle numbers estimate this year was a big one and is attracting a lot of attention. For this reason, we have prepared the accompanying chart so you can see how the revised figures compare with earlier years.

Cattle numbers tend to go up or down at fairly regular intervals. This is why they are called cycles. Note in the chart how regular the cycles have been. These patterns are in response to changed economic conditions.

Cycles for cattle generally run from 10 to 14 years. This is counting the time from one peak through the downswing and expansion to the next peak. Usually a lag occurs between the time profits appear and farmers expand production. After profits appear, numbers increase and eventually prices decline. At the same time, more feed is used and feed prices go up and a two-way squeeze is put on profits. This leads to a cutback in production.

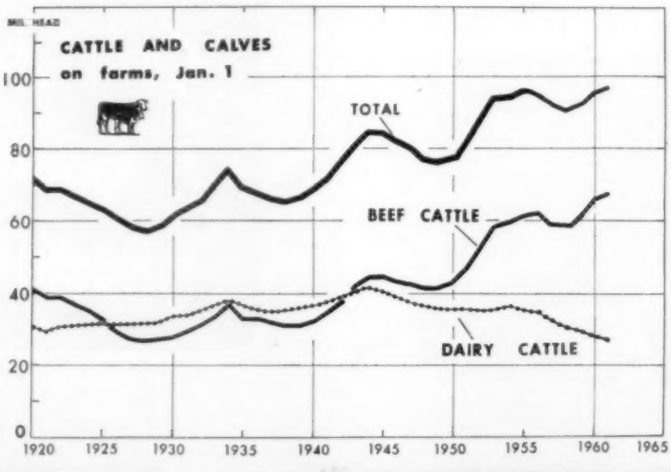
The previous peak in 1955 was equalled in 1960 and the 1961 total is slightly higher. This means that six years of the present cycle have gone by. To be sure, no one knows for certain how long a given cycle will last but if past history repeats, numbers will likely increase for a few more years.

### Since World War II

Notice how dairy cattle numbers have decreased since the end of World War II. Also, notice that the cycles have almost all been for beef cattle with the decline in dairy being more or less gradual.

How does the change in statistics affect the cattle market? This writer believes that with the same number of cattle on hand after the count as before (a recount doesn't change the numbers) the pressure of supplies on the market will be about the same. Therefore, the recount most likely will leave prices to seek a market equilibrium level essentially the same as they would have anyway. Numbers of cattle respond to economic conditions, not to the statistics that supposedly report those conditions.

For us who keep track of the statistics, of course, it means learning some figures over again.




## Poultry Feed Mill

AURORA, MO.—Construction of a poultry feed mill here will start soon. Owners are Frank Hammond of Aurora and Dave Davidson and Jerry Cavaneau, both of Monett.

The mill will employ five persons at first, but more will be added when the firm's activities increase, it was reported.

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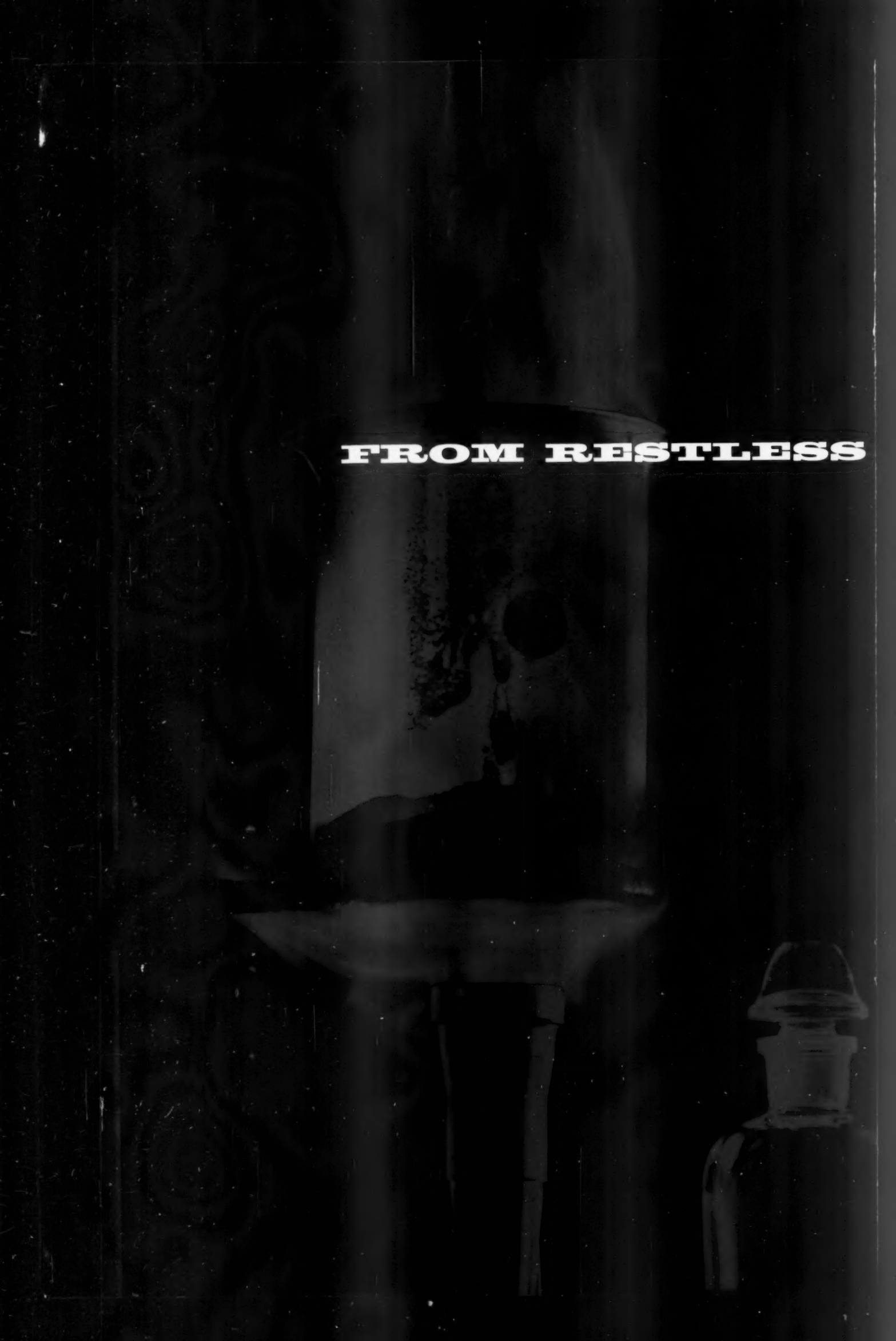
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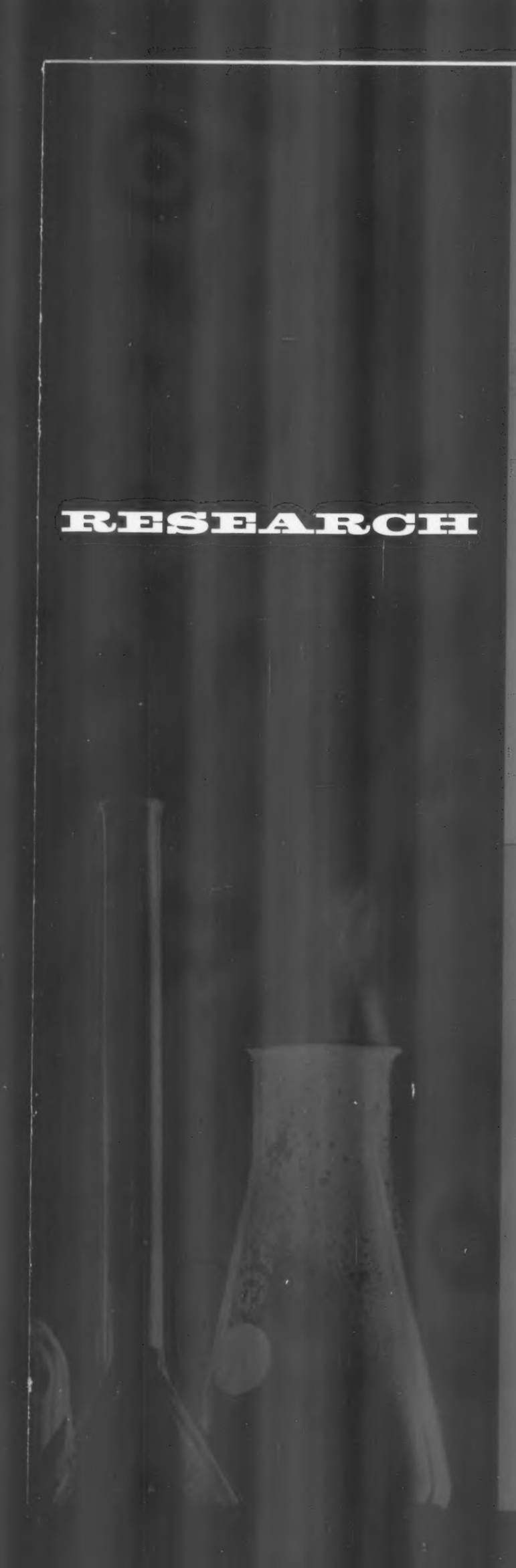

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# Bloat, Calf Starter Are Iowa Topics

AMES, IOWA — The promise of better bloat control and a starter ration for calves were among the topics at the 10th annual Cow Conference held at Iowa State University here Feb. 28.

Dairy calves given a palatable, nutritious starter as early as four days of age can be switched over to all-dry feed as early as one month of age, J. W. Rust, nutritionist, said.

Moving the calves over to all-dry feed at the outset will save feed costs, he commented.

In Iowa State University tests, calves given starter free choice from four days of age and weaned from milk when one month old ate more starter per day for the first two months. These calves gained nearly as well as a group fed some liquid feed for seven weeks. They ate about 2½ lb. of starter per day the first week they were on an all-dry diet, Mr. Rust added. They gained 1.1 lb. in body weight per day per head during the first two months.

A calf must be taught to eat the starter at an early age if the liquid feed is removed early, he continued. Calves will eat only small amounts of starter during the first two or three weeks. After this, they will eat more starter if their milk ration is cut back, Mr. Rust said.

It should not contain much fiber. But a good starter should contain at least 16% protein, Mr. Rust emphasized.

Taste appeal, or palatability, helps a young calf get started. The studies showed that calves prefer whole, coarsely ground or rolled concentrates rather than finely ground ones. Molasses will make the starter more tempting, he added.

The diet used in the Iowa State tests, included ground corn, crushed oats, soybean oil meal, blackstrap molasses, minerals and vitamins A and D.

Mr. Rust pointed out that good-quality hay in the diet will enable the farmer to limit the starter to 4 lb. per day. He also said it is important to keep fresh, clean water available, especially after milk feeding is stopped.

### Bloat Control

On the subject of bloat, Dr. N. L. Jacobson said there is promise for much better bloat control measures within the next few years.

Dr. Jacobson pointed out that research is being aimed at cause, prevention and treatment of the disease. He explained that oils are effective under some conditions. Studies in New Zealand showed that spraying a vegetable oil (such as peanut oil) on the pasture at the rate of 3 oz. per day per animal reduced or eliminated bloat.

One problem is that a new plot usually must be sprayed (and grazed) each day. "Back grazing" is not recommended in this system, unless the regrowth has been sprayed.

Iowa State University studies have shown that bloat due to alfalfa soilage (green-chopped alfalfa) can be prevented with crude soybean oil. The oil is sprinkled over the green legumes in the feed bunk at the rate of ¼ lb. on the daily forage allowance of a 1,000 lb. animal. Several other animal and vegetable oils are effective, he added.

In other studies, about ¼ lb. of soybean oil was added to grain fed to each animal before the cattle went on pasture. This is helpful also, but the effect lasts for only about four hours, he said. High levels of oil (1 lb. or more) are necessary to prevent bloat for a day after feeding, Dr. Jacobson added.

Oils have been added to drinking water in other studies. This will reduce pasture bloat, he said, but also requires "a lot of oil," since the cows' water consumption may be erratic.

Dr. Jacobson reported that the oil additives do not reduce feedlot bloat.

It has been found that penicillin added to the feed will reduce bloat for a short period, Dr. Jacobson said. After about 10 days, its effect is "greatly diminished." The same is true for many other antibiotics, he commented. It also has shown, however, that antibiotics fed in rotation or in combinations are effective for longer periods.

When proper combinations or sequences are developed, Dr. Jacobson said, continuous control may be possible. Further research is necessary before it will be known if and when such methods can be recommended.

Even with these new methods, good management remains a bulwark against bloat. Mixtures of legumes and grasses will help, but these are not "fool-proof," he stated. The animals may select and eat the legumes and leave the grasses.

Dr. Jacobson also advised keeping animals out of pasture during early, lush growth stages. This is the most likely bloat-producing stage of plant growth.

### Provide Grass Hay

Providing grass hay, such as Sudan, to animals on pasture will sometimes reduce bloat if they eat enough of it, he continued. Increasing the dry forage also will help prevent feedlot bloat, but may interfere with feeding programs, he noted.

If bloat does occur, Dr. Jacobson suggested the following: First, remove the animals from the pasture (or other feed which causes bloat). In mild cases the animal can be walked slowly. Keeping its front feet higher than the hind feet may relieve the situation.

In more acute cases a stomach tube can be used, he advised. A defoamer (one cup of animal or vegetable oil) administered through a tube will help free the gas. The defoamer may also be given by drench or injection directly into the rumen.

In cases of extreme emergency, Dr. Jacobson recommended a trocar-cannula. This involves cutting a drainage hole into the rumen. This should be attempted only as a last resort. A veterinarian should be called if time permits.

Dr. Jacobson also pointed out that some animals are more likely to bloat than others, but when the pasture is very bloat-provocative, all the animals may bloat. He also pointed out that weather which produces a rapid lush growth obviously is related to bloat. But otherwise weather conditions don't seem to be closely connected with this disease.

Research is also being conducted to try to determine what combination of factors in legumes and in the rumen are responsible for bloat, Dr. Jacobson said.

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And that was only the beginning! Those on the fat ration consumed far less feed per 100 pounds of gain . . . 61 pounds less mixed feed and 40 pounds less roughage. On this basis, feed savings averaged 10% per head. When carcasses were graded, only 50% of the normal diet group were rated choice or better while 72% of those receiving fat fortified rations were graded prime or choice.

All these findings mean more money for the feeder. If you're not already mixing fat enriched rations, talk to your local renderer soon. He can give you complete details on tests like this, as well as other research information which shows the way to more weight gain, lower cost per pound of gain, and increased growth rate for poultry, hogs, and cattle.

Best of all the use of animal fat helps improve the market for animal protein byproducts . . . results in better cattle prices when they're sold.

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**NEW EQUIPMENT PLANT—Here's an artist's conception of the new George A. Rolfes Co. plant now under construction on a 28-acre site in Boone, Iowa. The new building, over 38,000 sq. ft. in size, will house offices, engineering department, electronics division, factory and warehouse facilities for the Iowa grain equipment firm.**

## Canadians Endorse Plan for Development

BRANDON, MAN.—More than 300 farmers and businessmen recently endorsed a plan which recommends that an incorporated body, the Brandon Area Development Assn., be formed to guide an agricultural development program in this area.

Formation of the recommended association would involve 10 working committees responsible for various segments of the program, such as beef, swine, dairy, sheep and allied industries.

Farmers are to be provided with management assistance according to the land, labor and capital resources at their disposal.

Major agricultural recommendations of the program include:

—Expansion of cattle feeding, especially for operators with sufficient capital. Beef cow herds should be limited to rangeland areas.

—Specialized production of feeder pigs to supply individual hog feeders, along with establishment of a corporate-owned commercial hog finishing lot.

—Expansion and improvement of dairying only on dairy farms already established.

—Production of quality lambs, matched with early marketing of feeder or fat lambs.

—Reliance upon wheat as the primary cash crop and upon barley and oats as secondary grain crops.

—Flax and rapeseed production on farms with limited labor and capital.

—Growing of dry peas and dry beans on farms where capital is readily available. Also, cooperative marketing and centralized assembling, processing and shipping facilities are recommended.

—Production of certified seed of meadow fescue, crested wheat grass and grains on farms in certain areas.

—Consideration of commercial alfalfa-bromegrass production, primarily because of advancements in hay wafering.


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# Inspectors Now Passing Birds Cured of Respiratory Disease

By ROBERT H. BROWN
Feedstuffs Special Correspondent

ATHENS, GA.—With some modifications in condemnation proceedings reported underway by inspectors it may be well to make sure that all flocks showing symptoms of respiratory diseases be held, treated, cured and then offered for sale.

U.S. Department of Agriculture inspectors are now passing birds that have had these diseases and have been cured, it was reported at the poultry disease short course held at the University of Georgia School of Veterinary Medicine here.

A modification of rules inspectors are to go by was put into effect Nov. 25 and gives inspectors the right to put an okeh on birds that have a residue left over from past diseases, according to a statement made by Dr. William E. Clarke, Georgia Diagnostic Laboratory.

To be eligible for passing under this new ruling there must, however, be no sign of residue on the carcass and such residue noticed must be on the internal organisms.

Inspectors, he said, are taking the attitude that if some birds can be cleaned up at the processing plants they will be allowed to pass.

### Early Treatment

This new ruling, Dr. Clarke said, makes it more important than ever that flocks showing early symptoms be treated and cured immediately. It also could mean, he said, that the flocks should be held for treatment rather than pushed on to market before conditions might develop that would bring about condemnation.

Asked from the floor how inspectors are arriving at their conclusions to pass or not to pass on residues that may be left, Dr. Clarke pointed out that as in all inspections the visual method must be followed.

With 22 to 25 birds passing along the line every minute, it is presumably a case of inspection of liver, heart and spleen. If the residue is not slicky or foamy it may be passed, he said. Emphasis should be put on the condition of the carcass.

The inspectors have to be satisfied that the residue shows positively that the bird has been cured, he said.

Prior to the rise in condemnations due to respiratory diseases, the grower looked upon them merely from a mortality standpoint. Today, however, with condemnations running as high as they are, growers should look upon diseases from another light: the number of pounds condemned, he stated.

"Some growers haven't realized this change. The time has come when sniffles are heard in a flock it's time to do something about them. Respiratory diseases are still the cause of most condemnations. Some say they run as high as 75%," he said.

"We have a tendency to think in terms of one infectious disease, when today we are dealing with more than one. We have to treat entire flocks, not just groups."

While one-third of flocks have one infectious agent, other figures, he said, show that 58% have bronchitis, and of that figure 44% have bronchitis and PPLO.

"If a flock has more than one agent, it is necessary to find out what combination does exist and treat accordingly. Entire flocks count today; not individual flocks," he said, adding that it is necessary to medicate entire houses.

It was at this point that he revealed the new ruling that any lesions in the air sac due to past infections if removed could be passed.

### Down Grading

"Once a respiratory starts in a bird, she will not be the same as before and that is why we've got to treat broiler flocks early. They may pass inspection, but they also may be downgraded," he said.

Pullorum is creating a lot of talk in the South and a cure seems to be as far away as ever, but Dr. Max Colwell, Georgia Diagnostic Laboratory, reported one instance where a heavy water diet had apparently been successful. The grower, who reported

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**48 YEARS OF SERVICE — Floyd Eaton, right, is pictured here receiving congratulations from Harold Swift, manager of National Alfalfa Dehydrating & Milling Co.'s plant in Manzanola, Colo., for 48 years of service. Mr. Eaton started work in 1912 at Hartman, Colo., with Denver Alfalfa Co., one of the companies that were combined into National. The wage scale at the time was 17½¢ an hour. The company expanded into other locations in Colorado and Kansas. Mr. Eaton became plant manager at Deerfield in 1921, and served as manager of most of the mills in Kansas and Colorado at one time or another. He moved to Manzanola as assistant manager and bookkeeper in 1953 and retired at the end of 1960.**

the unofficial test, said he spent several hours seeing that all afflicted chicks had more than their share of water and that recovery was excellent.

### Sanitation

Environmental control is still one of the big answers to disease control and sanitation ranks as one of the most important phases of this environment, he stated.

Those attending the course were urged to use "lots of elbow grease" and disinfectants and above all else "clean a clean house."

Penetration power of disinfectants depends a great deal on how clean the surface is, Dr. Charles N. Dobbins, Jr., said.

"Disinfectants that are readily affected by organic matter are useless except on relatively clean surfaces and liquids," he said.

### New Diagnostic Method

A new method in the diagnosis of disease in which liquid latex was pumped into the bird where it hardened in air sac was demonstrated by Dr. Dale J. Richey, associate poultry microbiologist, University of Georgia. This presented a picture of where trouble lay.

He, too, called upon growers to treat on a herd basis and often disease can be eliminated on a mass basis. Chicks are subject constantly to environmental conditions which may spread or trigger off respiratory troubles; these conditions can not be eliminated, but poultrymen should control them to a degree that stress will be minimized, said Milton Y. Dendy, extension poultryman, in speaking on environment in relation to respiratory problems.

A chicken, he said, is a plastic organism. After the thermo-regulatory system has developed it can adapt to environmental conditions unless they are extreme, or rapidly fluctuate.

He continued, "My observation and experiences indicate that the early life of the bird is the time when the environment has the greatest effect in relation to respiratory problems. As a bird grows, immunity or resistance increases, and its thermo-regulatory system becomes more highly developed. There is never a time when birds are not susceptible.

"We might say that any environmental condition which places a strain or 'stress' upon a flock may be followed by respiratory symptoms."

Mr. Dendy said in closing that more information is needed on housing requirements and environmental control in relation to respiratory troubles in poultry and advised use of present knowledge to control environmental conditions for better flock performance.

### OKLAHOMA CHARTER

OKLAHOMA CITY, OKLA. — Little Dixie Feed & Seed Co. at Hugo, Okla., has been granted a charter with $40,000 capital stock. Incorporators are William Augusta White, Jr., William Augusta White, Sr., and Doris Marie White, all of Hugo.


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# Putting Research To Work

BY SPENCER H. MORRISON, PH.D., D. V. M.

## The Value of Potatoes for Feeding Dairy Cows

● J. W. G. Nicholson and R. J. Curtis, Canadian Department of Agriculture, Charlottetown, Prince Edward Island and Fredericton, New Brunswick, Canadian Journal of Animal Science, Vol. 40, No. 2, pp. 44-45, December, 1960.

**ABSTRACT AND COMMENT**

A double changeover experiment was used with groups of four cows each utilizing 28 day experimental periods in a 4 x 4 Latin square design to test the following rations:

(1) Hay, grass silage, standard grain mixture (oats, 500; barley, 200; wheat bran, 200; linseed oilmeal, 100 lb.).

(2) Hay, grass silage, potatoes, standard grain mixture. Potatoes pulped before feeding, and half of the dry matter of the succulent portion of the roughage provided by potatoes and half by silage.

(3) Hay, potatoes, standard grain mixture. Potatoes pulped before feeding and fed at a rate which would provide the same amount of dry matter as would be provided by silage.

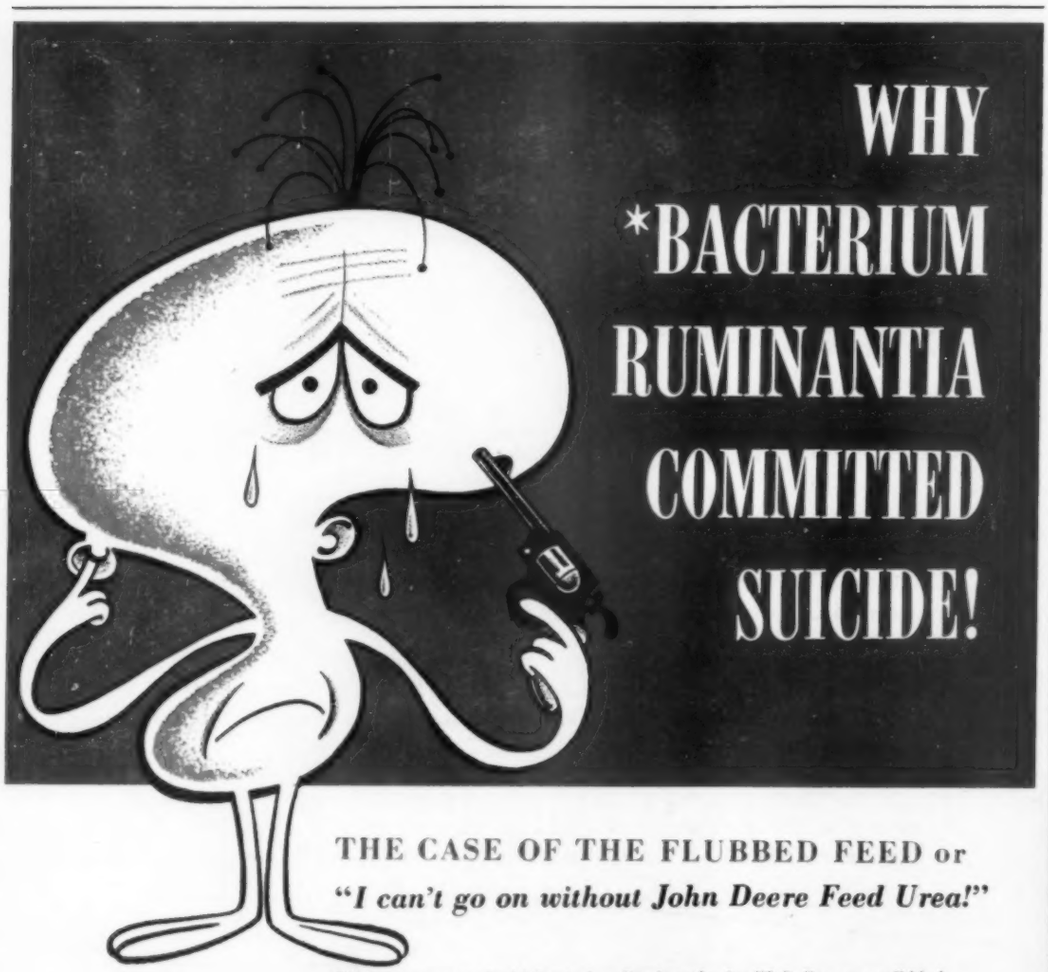
(4) Hay, potatoes, high protein grain mixture (oats, 350; barley, 150; wheat bran, 200; linseed oilmeal, 300 lb.). Potatoes fed in the same manner as in (3).

At the beginning of the experiment, hay was fed free choice with the silage at the ratio of 1:3 until the level of consumption was determined. This level of feeding was used throughout the experiment unless feed refusals became excessive. When this occurred, the total amount of feed offered was reduced, but the ratio of hay to silage was kept constant, where silage was fed. Grain was fed at the rate of 6 lb. of 4% F.C.M. based on the average production during the 10 days prior to the beginning of the experiment. The daily allowance of grain was reduced by 0.2 lb. each week throughout the experiment to compensate for the normal decline in milk production and avoid bias due to ration effects.

Previous trials at Charlottetown (1948-1952) had shown that potatoes fed to dairy cows at the rate of 1¾ lb. per cwt. of bodyweight were nearly equivalent to turnips fed at the rate of 4 lb. per 100 lb. of weight. A similar trial at Fredericton (1948) indicated that 1 lb. of potatoes would replace 2 lb. of mangels in a ration for dairy cows. The 1956 edition of Morrison's Feeds and Feeding states that white potatoes are satisfactory as part of the replacement for grain in most livestock rations and that it takes about 400-450 lb. of them to supply as much TDN as 100 lb. of grain. For dairy cattle, potatoes were a satisfactory substitute for silage (corn) in trials at Idaho and North Dakota (Id. Bull. 216; N.D. Bull. 249) being nearly equal to silage when 24 to 40 lb. was fed per head daily. In Vermont tests, when larger amounts were fed than preceding, the potatoes were not equal to the same weight of dry matter in corn silage and the butter was soft. In view of this data the Canadian workers desired to compare the value of potatoes with grass silage as a source of succulence in the rations for dairy cows. Also, since grass silage and potatoes differ quite a bit in chemical composition, etc., it was desirable to see if they should be fed interchangeably or together. The experiments were conducted from 1956 to 1959.

The results show that there were no significant differences in average production between the rations at the Charlottetown location, however ration A proved to be inferior at Fredericton, partly due to the reluctance of the animals to consume the grass silage in adequate amounts.

At both locations, the high protein

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ration resulted in improved production when compared with the low protein one, with a concurrent increase in solids-not-fat, suggesting that possibly ration (C) was low in protein.

From the data it is obvious that potatoes can replace grass silage on an equal TDN basis, if the ration fed with the potatoes contains sufficient protein. While efficiency was not affected, higher TDN consumption was obtained when silage and potatoes were both fed together and thus suggest that if both potatoes and silage are available, it would seem to be somewhat better practice to feed both of them together, rather than to replace one with the other. This would be particularly true if the silage was not of the best quality.

This is good information for dairymen located in the potato growing sections of the U.S. There are certain regions of Idaho, California and Maine that use considerable amounts of cull potatoes in beef cattle rations, but still have not widely used them as substitutes for silage with dairy cows. On such high priced land, silage is not often grown, but plenty of surplus potatoes of off grades, etc., are often available at very reasonable prices. Providing they give the cows a little bit more than normal amounts of protein, dairymen should not worry about maximum usage of potatoes to provide succulence in the ration.

●

### Timely and Worth Noting

Further work has been done by the Canadian researchers on the influence of the size and surface condition of grit upon the digestibility of feed by chickens (Smith, Canadian Journal of Animal Science, Vol. 40, No. 2, pp. 51-56, Dec., 1960). Comparisons were made with young cockerels approximately 8-12 weeks of age, utilizing various grits as follows: No. 40 mesh sand, No. 30 mesh sand, No. 30 mesh quartz, No. 20 mesh quartz (chick-size), No. 10 mesh quartz (hen size), and No. 5 mesh quartz (turkey size). Birds of this age were unable to swallow the No. 5 mesh quartz. In another experiment, washed silica sea sand, insoluble quartz grit, smooth granite pebbles and shattered granite pebbles were compared. The sand was screened to mesh No. 30, and the shattered pebbles to size No. 10.

In experiment 1 the feeding of grits caused a significant increase in the digestibility of all proximate constituents, while in trial 2, all but the crude protein fractions were significantly increased. The data of the first trial furthermore indicate that a slightly greater improvement in digestibility was shown when either No. 40 sand or No. 10 quartz grit was employed, but this effect was largely removed when covariance analysis of the data was employed. The smaller sized grits, and those displaying smoother-type surfaces, were not retained within the gizzard to the extent that rougher, larger sized ones were—consequently, a greater consumption of the former grits was experienced. However, although all grits improved feed digestion, neither the size nor the surface condition of the grit influenced this response.

### GROUP TO MAKE FEED

BOWDLE, S.D.—A group of interested farmers, ranchers and businessmen met recently in Bowdle to discuss plans to form a corporation in order to provide the necessary facilities to grind, mix and pellet feeds from local raw materials. Another meeting is planned.

## Advertising Manager Named for Hubbard

MANKATO, MINN.—Promotion of Robert Engesether to the position of advertising manager of Hubbard Milling Co., succeeding Vern Lundin, has been announced by Quentin J. Marsh, vice president and manager of Hubbard feed department.

Robert Engesether

Mr. Engesether has been assistant advertising manager since he joined the firm in 1956. He received his bachelor of science degree from the University of Wisconsin and was cited as the outstanding graduating senior in advertising.


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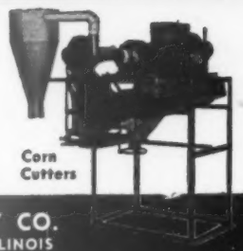

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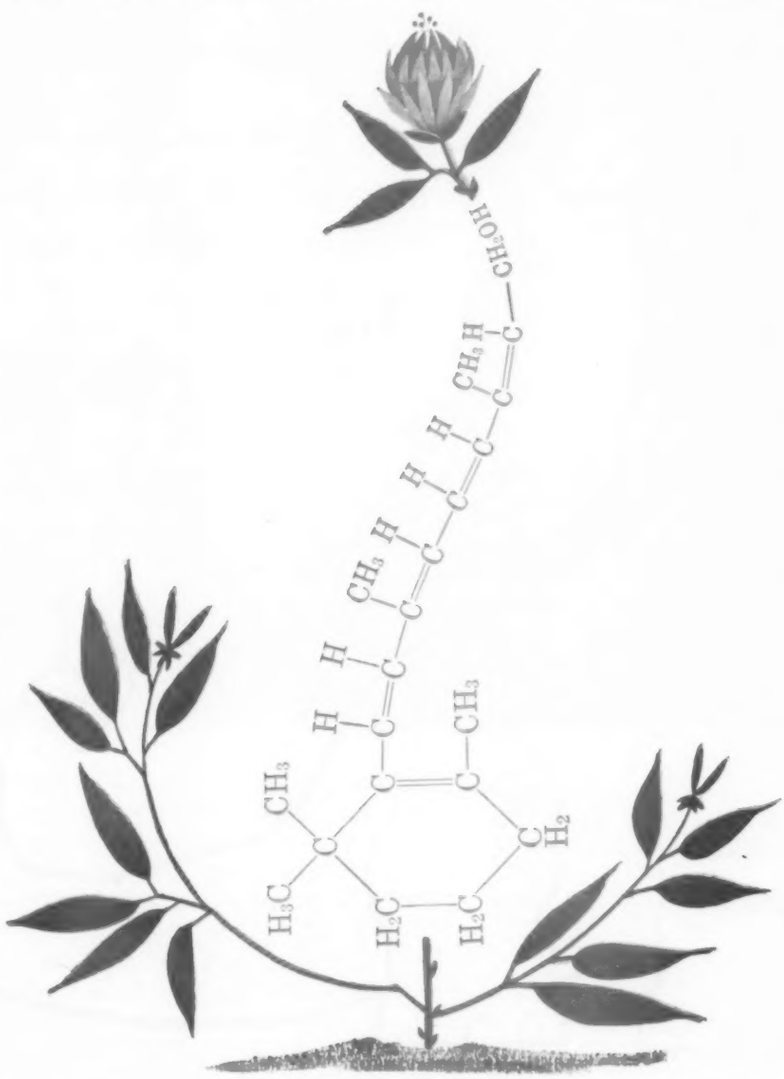

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NEW MEXICO FEEDERS' DAY—This photo shows J. H. Knox, left, head of the animal husbandry department at New Mexico State University, University Park, talking to the institution's recent feeders' day crowd about research in cattle feeding at the university's agricultural experiment station. In the background are some experimentally-fed animals belonging to the university.

# *Scientists Review Feeding Research at New Mexico*

By CECIL HERRELL
New Mexico State University

UNIVERSITY PARK, N.M. — Scientists at the New Mexico State University Agricultural Experiment Station reviewed their work during this past year at the university's 22nd Feeders' Day recently. About 200 feeders, ranchers and farmers attended the annual event.

Research reports dealt with the use of Aureomycin for fattening calves, varying amounts of grain and molasses in pellets for lambs, use of enzymes in livestock feeding, self-fed pelleted rations for yearling steers, and synovex and tranquilizers in cattle feeding.

Following are summaries of the reports.

**Aureomycin**

Results of three-year feeding trials point up the advantages of the use of Aureomycin in fattening calves, according to J. H. Knox, head of the station's animal husbandry staff.

Calves, which were fed Aureomycin during the three-year experiment, gained an average of 2 lb. per day versus 1.85 lb. for those which were not fed Aureomycin. Daily ration for one lot of steers, which made the best daily gain (2.06 lb.), was 7.6 lb. of ground milo, 1.3 lb. cottonseed meal, 3.3 lb. alfalfa hay and 6.8 lb. of corn silage.

Aureomycin was fed at the rate of 100 mg. per day in the preliminary phase of the feeding period, and 50 mg. in the fattening phase. The animals were fed on an average of 220 days.

Average cost of 100 lb. of gain with Aureomycin-fed calves was $13.70; the check lot, no Aureomycin, $14.05. Average carcass grade for the Aureomycin-fed calves was 2.2, the check lot calves, 1.7. Dressing percentage was 59% for both lots.

**Pellet Research**

Yearling steers fed a pelleted ration of alfalfa hay, maize and molasses for 119 days made the most economical gains on pellets of 70% coarse alfalfa hay, 25% ground maize and 5% molasses, Mr. Knox said. Average daily gain was 2.28 lb.; cost of feed for 100 lb. of gain was $21.28.

Calves which were given the same ration plus 50 mg. Aureomycin made average daily gains of 2.11 lb. at a feed cost of $11.08 per 100 lb. of gain.

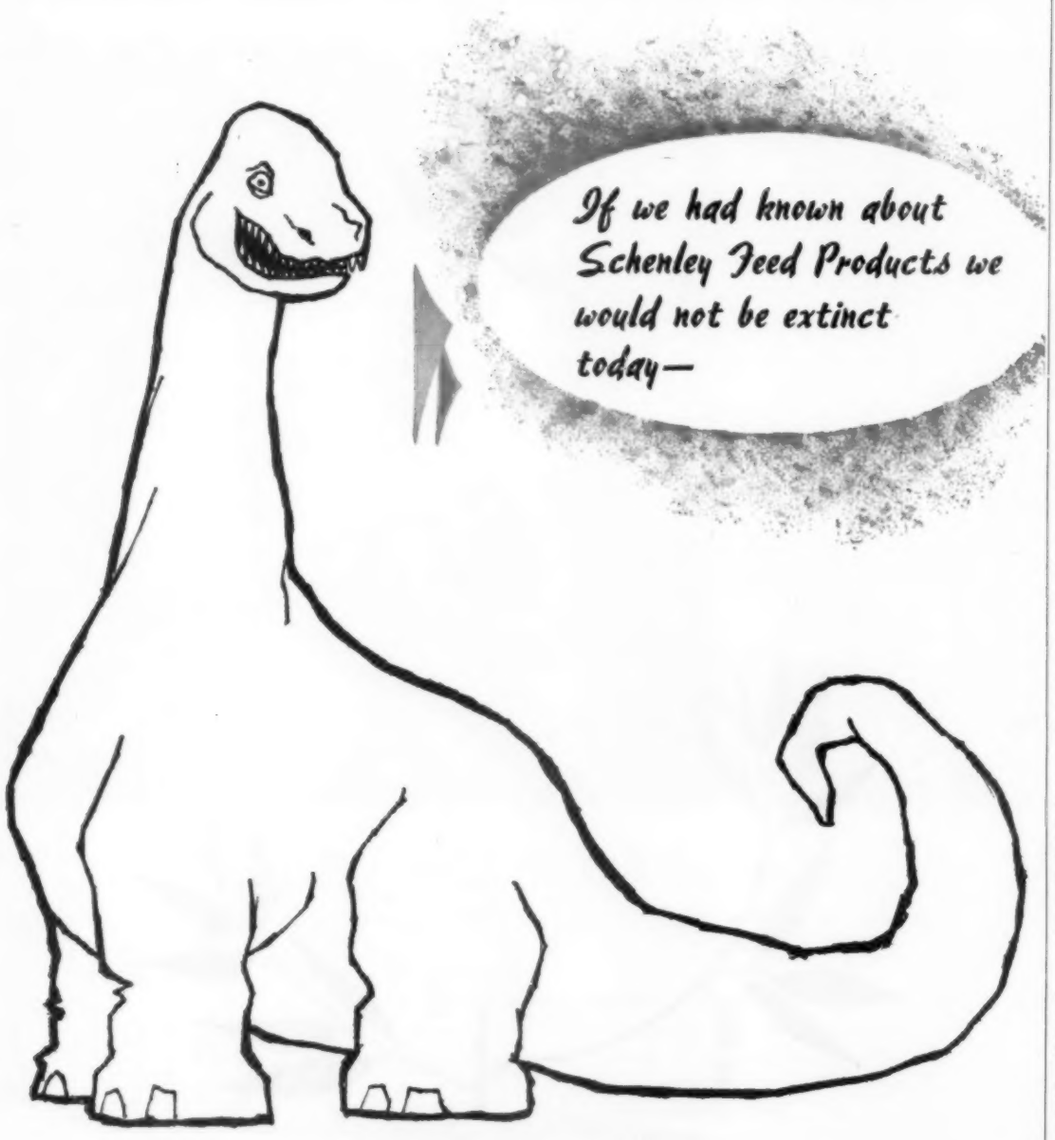
Two-year results of an experiment in feeding pelleted rations and use of synovex implants for fattening yearling steers showed that weight gains varied widely depending on the ration fed, Dr. T. H. Belling, Jr., veterinarian with the NMSU experiment station, reported. Some steers made weight gains ranging from 55 to 106 lb. during the feeding period while others gained no more than the average in the lot. The research will be continued for another year to attempt to get more conclusive results.

Dr. Belling also stated that last year's tests did not favor the administration of tranquilizers to cattle during shipment. Tests the previous year had shown advantages in their use. Because of the inconsistent results, the NMSU veterinarian said that additional research is necessary before anything definite can be ascertained.

**Profit Measures**

"The cost of feeder and feed determines our profit," said Charles M. Quarre, manager of the cattle division, Kern County Land Co., Bakersfield, Cal.

"We buy a feeder weighing 700 lb. He is delivered in at 24¢ or a total cost of $168. To this we add 300 lb. of gain at 25¢ lb. or a cost of $75, or a total cost of $243 for feeder and feed. It is important here to note that the feeder cost is 69% of the total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*As compared to beta tricalcium phosphate reference standard

FEED INGREDIENTS DEPARTMENT

## INTERNATIONAL MINERALS & CHEMICAL CORPORATION

IMC
PRODUCTS FOR GROWTH*
*TRADEMARK

FI-3-01

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*Sales Agents:* ***EASTERN AREA:*** GRANDONE, INC., P.O. Box 365, Norwood (Mass.) • SUNSET FEED & GRAIN CO., INC., Buffalo • GETKIN-MOYER, INC., Norristown (Pa.) • A. G. GREENE COMPANY, Charlotte (N. Carolina) • EDWARD E. SMITH COMPANY, Atlanta • E. A. CARTER BROKERAGE COMPANY, Tampa. **CENTRAL AREA:** BULLARD FEED COMPANY, Chicago • GOOD LIFE MINERALS, INC., Effingham (Ill.) • JOHN F. YOUNG COMPANY, Cincinnati • R. D. ERWIN COMPANY, Nashville • CHAS. F. WILLEN CO., INC., Birmingham (Ala.) • STANDARD SALES COMPANY, Meridian (Miss.) • The VITA PLUS CORPORATION, Madison (Wis.). **MIDWEST AREA:** BLOMFIELD-SWANSON, Minneapolis • W. P. MANN SALES CO., Omaha • M. A. McCLELLAND COMPANY, Kansas City (Mo.) • B. A. LUCIUS COMPANY, Fort Worth. **WEST COAST:** JAMES FARRELL & COMPANY, Seattle • JAMES FARRELL & COMPANY, Compton (Calif.). CANADA: N. D. HOGG LTD., Toronto.

**COLORADO CONVENTION—James Brancucci (left), of the Royal Chemical Co., Denver, is shown in the first picture enjoying the men's buffet-smoker with Hirsch Harrison of the Snell Grain Co., Stratton. Mr. Harrison won the association's annual service award. The second photo shows H. L. Wierman (right) of the Summitt Grain Co., Denver, receiving his $100 attendance prize gift certificate from Bob Davis, newly-elected vice president from Colorado Springs.**

and the feed cost is 31%. We work hard on attempting to reduce that 31% by applying new feed methods, by the use of additives, by mineral supplementation, etc.

"It is in this area that the feeder can contribute to more efficiency. He cannot alter the nature or character of the raw product, the feeder animal. It is in this large area, over twice the size of the feeder's area, that the breeder can contribute a more efficient animal," Mr. Quarre stated.

"As an example," Mr. Quarre said, "if we can put on that 300 lb. for 23¢ instead of 25¢, the cost would be $69 and we would have $6 over the animal who had a cost of gain of 25¢. This $6 is added right onto the top of the profits and you can be sure that the feeder is more willing to share this with the producer by bidding up his cattle.

"If the feeder knows, by experience, that a particular group of cattle performs better in the feed lot, they will create a greater demand by their reputation," Mr. Quarre added.

"My business," said the first man, "is terrible. How's yours?"

"Looking up," was the reply.

"What do you mean, looking up?"

"Well it's flat on its back now."

◆ ◆ ◆

The Scottish farmer had fallen into the well. Treading water vigorously, he shouted for his wife. "Hold on!" she cried. "I'll call the men from the field."

"Wait a minute," he called. "What's the time?"

"Eleven-thirty."

"Then bide a wee. I'll swim roon' till their dinner time."

◆ ◆ ◆

A child: A creature who stands half-way between an adult and a television set.

◆ ◆ ◆

"Integrity and wisdom are essential to success in every business," said the boss to a new employee. "By integrity I mean that when you promise a customer something, we must keep that promise even if we lose money."

"And what is wisdom?" asked the new man.

"Don't make such darned fool promises in the first place," said the boss.

◆ ◆ ◆

"Darling," asked the five-year-old's mama, thinking she knew all the answers, "who do you love best?"

"Well," said her offspring thoughtfully, "I love you, and I love Daddy. But in between come an awful lot of dogs."

◆ ◆ ◆

"Would you believe it!" said a wife after her visitor had left. "If that woman yawned once she yawned at least ten times while I was talking."

"My dear," soothed her husband, "I don't think she was yawning. She just wanted to say something."

◆ ◆ ◆

Money doesn't always bring happiness. The man with $5 million usually is no happier than the man with $4 million.

◆ ◆ ◆

Clerk: "I'm sorry, Miss, but I can't issue a marriage license until you have a properly filled out form."

Girl: "Listen, Mister, if my boyfriend don't care, what business is it of yours?"


*Questions I'm asked about*

*Dr. G. C. Wallis, recognized authority in the field of Vitamin D₃ nutrition for livestock*

**Q:** Will two to five pounds of good sun-cured hay provide enough vitamin D for my dairy cows?

**A:** No. Sun-cured hay varies widely and unpredictably in vitamin D content—80 units to 1,250 units per pound have been reported for sun-cured alfalfa hay. Two to five pounds of lower potency hay would provide about 200 to 500 units per cow per day which is insignificant. Even though the hay happened to be high in vitamin D, there would be only a modest contribution made toward the suggested optimum intake of 6,000 to 8,000 units per pound of dairy ration.

**Q:** How can I check to make sure my dairy cows are receiving enough vitamin D?

**A:** Good safeguards can be taken but an absolute check is probably not possible. Optimum vitamin D levels for top performance and longevity have not been clearly established but work is in progress. Mild deficiencies are often difficult or impossible to detect but they can be costly. Available information suggests the use of 6,000 to 8,000 units of vitamin D per pound of complete grain ration. Confidence in your feed manufacturer and the good performance of his well-formulated rations would be important for users of commercial feeds.

**Q:** Is there any danger of my feeds having too much vitamin D?

**A:** Our recommendations for the vitamin D fortification of feeds are well within the generally recognized safe limits of vitamin D intake for the different species of animals. With careful methods and efficient modern mixing equipment feed manufacturers are able to achieve good distribution of micro-ingredients. The chance of overdosage is remote.

**Q:** How much vitamin D do baby pigs and growing-finishing pigs need?

**A:** Early weaning, fast growth, confinement raising, multiple farrowing and other changes have greatly increased nutritional stress factors since the vitamin D requirements of pigs have been carefully studied. Based largely on amounts that have given good results in experimental and practical swine raising programs, a number of Experiment Stations are suggesting about 500 units of vitamin D per pound of milk replacer and starter with somewhat smaller amounts as pigs approach market weight.

**Q:** Do sheep get enough vitamin D from natural sources?

**A:** Not always. For instance, in recent English studies lambs from ewes given supplemental vitamin D averaged 6 pounds heavier at weaning in one flock and 9 pounds heavier in another than lambs from ewes given no vitamin D. Fleeces from experimental animals were more than ½ pound heavier, graded higher, and brought a premium price.

*S. C. Wallis*

For more complete answers to any of these questions write to Dr. G. C. Wallis, Director of Nutrition, Agricultural Department, Standard Brands Incorporated, 625 Madison Avenue, New York 22, N. Y.

***Fleischmann's Fidy Irradiated Dry Yeast***
rich in vitamin D for four-footed animals

*another fine product of*
Standard Brands Incorporated

*These educational advertisements tell farmers about*

THE IMPORTANCE OF VITAMIN D FORTIFICATION

Sunshine and sun-cured roughages are undependable sources of essential Vitamin D. Farmers and feeders have many questions about Vitamin D fortification. The advertisement illustrated here (one of a series) shows how Dr. G. C. Wallis, recognized authority on Vitamin D nutrition, answers such questions through FIDY advertising in leading magazines.

It's all part of the educational FIDY program to emphasize that today's added stress factors have changed livestock nutrition requirements. More than ever, farmers must be sure that lack of a dependable Vitamin D source is not a limiting factor in their feed.

Be sure to fortify your feeds with FIDY—Fleischmann's Irradiated Dry Yeast. Here is a rich source of Vitamin $D_3$ that is dependable—and is economical, easy to use, and truly outstanding in dispersion qualities.

And, if your feeders have questions about Vitamin D nutrition, just have them address—

Dr. G. C. Wallis
Director of Nutrition,
Agricultural Department
Standard Brands Incorporated
625 Madison Avenue
New York 22, N. Y.

Free technical data, educational and sales aids are also available from the Agricultural Dept. upon request. Write for request form, showing available materials.

Fleischmann's F·I·D·Y
IRRADIATED DRY YEAST
RICH IN VITAMIN D FOR FOUR-FOOTED ANIMALS

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*Distributors for Iowa, Nebraska, Kansas and Missouri*
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*Supplying your*
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*needs in*
*Ohio - Indiana - Illinois*
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**DAVIS ENTERPRISES, INC.**
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Tel. BA 2-6748 Dayton 1, Ohio

## Speaker Cites 'Musts' For Poultry Industry In Delmarva Region

**By Special Correspondent**

WILMINGTON, DEL. — Increased plant efficiency, automation and the adoption of new technology are "musts" if the poultry industry is to survive and thrive on the Delmarva Peninsula, Dr. Cliff D. Carpenter, poultry industry consultant from Laguna Beach, Cal., declared at a seminar here recently.

"Time and motion studies are needed in every branch of the industry," Dr. Carpenter said. "The goal should be total plant efficiency, with savings at every step and in every motion. Research is needed to develop new ideas, new markets, new products. We must develop more ways of using broilers, faster ways to prepare them, ways to make them more convenient to cook, especially for working women."

Dr. Carpenter spoke at the opening session of a conference of Delmarva Peninsula broiler industry leaders in the Hotel Du Pont here.

**Freeze Drying**

He cited freeze-drying as an innovation in food processing that has application to the broiler industry, and urged Peninsula executives to lose no time in investigating it. Freeze-drying is a process in which food products are placed in a vacuum and the moisture removed by sublimation, the speaker said.

Discussions at the seminar covered increasing competition from other broiler producing areas, mounting costs and the effects of new farm programs being developed in Washington.

Business mergers, further integration of production, processing, and marketing functions, new methods of financing, and improved management techniques were also topics receiving the attention of the poultry leaders.

The seminar was sponsored by the poultry industry's trade and promotional organization, Delmarva Poultry Industry, Inc., in cooperation with the University of Delaware and the University of Maryland.

Other speakers included Dr. Robert Dince of the University of Georgia, Lawrence C. Murdock of the Federal Reserve Bank of Philadelphia, and Harold Snyder of the Arkansas Valley Industries. Dr. Dince also spoke on "How to Go Bankrupt—A Case Study."

## Outlook for Grazing Rated as Average

FARGO, N.D. — The current outlook for spring grazing in the western region is about average, according to a report from the North Dakota Livestock Reporting Service.

However, the report notes that conditions March 1 were far from uniform and cover situations that vary all the way from very good in the southern plains and the Pacific coast to bad in the central inter-mountain area and the northern plains.

The numerical weighted condition of the range is listed as 75, up two points from Feb. 1 and one point above the five-year average. All figures 70-79 indicate fair condition.

The report says that above average spring precipitation will be required in seven states—North Dakota, South Dakota, Montana, Wyoming, Utah, Nevada and Arizona—to support a growth of forage that will satisfactorily carry present livestock numbers. It is also stated that the mountain snow pack has been light and the present outlook indicates moderate to severe shortages of irrigation water for areas dependent on stream flow originating in the central mountain regions. Generally mild open weather since the first of the year has allowed maximum utilization of old range forage, crop residue and winter wheat pastures. The extensive use of grain and concentrates has conserved supplies of hay and other harvested forage, the report says. Hay stocks appear adequate in practically all areas.

Livestock wintered in average or better condition and normal percentage lamb and calf crops are expected.

Adequate or improved moisture supplies plus mild weather provided the basis for a sharp upturn in grazing conditions in Oklahoma, Texas, Washington, Oregon and California. Wheat pastures have provided a lot of high quality winter feed in the central and southern plains.

The year's favorable pasture operation is drawing to a close with the present rapid movement off fields intended for harvest, the report said.


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30% corn distillers grains

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Riboflavin — Vitamin B-12 — Bacitracin — GP-101, source of whey and other unidentified growth factors



Man's Internal Struggle
Over The Dollar
COST VERSUS PROFITS

NO-NO-NO-NO! IT COST'S TOO MUCH WE CAN'T AFFORD IT!
BU-U-T-T WE NEED IT BAD TO GET PRODUCTION UP
MANAGER
BOY-O-BOY-O-BOY I JUST KNEW SHE'D DO IT!
I TOLD YOU IT WOULD RUN INTO A LOT OF MONEY

**Rising Costs and Shrinking Profits Are Causing Unusual Pressures On Purchasing Decisions.**

Letting The Desire To SAVE Money Overpower The Need To MAKE Money...*Can Place You In A Tough Spot.*

If you pay too much, you hate yourself.

If you pay too little, you may be disappointed.

Since equipment must be engineered to do *all* the jobs you want done, and to do them with a minimum of (1) manpower, (2) contamination and (3) maintenance headaches, Wenger builds a lot of components into its Pellet Systems—many more than any other manufacturer.

The "real deal" you are seeking then is for the top flight modern pelleting system which will economically do *all* the jobs you need done—a uniform feeding of dry pellet mash, a top quality application of steam plus one or more liquid feed ingredients, the production of the finest quality pellets, plus the outstanding drying and cooling job which can be done. If you will carefully compare Wenger Pellet *system* costs with all others, including *all* of the necessary functions of a modern pelleting system, (including liquid application) you too will decide that the "real deal" you are looking for is available only from Wenger. Totally aside from minimizing your investment in complete systems cost, you will enjoy the bonus features of top quality materials and workmanship through every component of your pelleting system; the ability to minimize contamination which no other system offers; a great reduction in installation and electrical component costs, plus the multiple purpose design which is yours only with Wenger.

Wenger first determines your total requirements, and then supplies equipment which meets your total needs. Why take less than the opportune advantage of consulting your Wenger Sales and Service Engineer when you are considering liquid feed mixing, pelleting and cooling equipment? He'll supply you with careful recommendations, and the finest equipment available, at a figure which will pleasantly surprise you.

Wenger Mixer Manufacturing
SABETHA, KANSAS PHONE AVenue 4-2133

STANDARD OF THE INDUSTRY FOR LIQUID FEED MIXING, PELLETING AND COOLING EQUIPMENT



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# WORTH LOOKING INTO

NEW PRODUCTS • NEW SERVICE • NEW LITERATURE

DESCRIPTIONS OF NEW AND IMPROVED PRODUCTS AND SERVICES PROVIDED BY MANUFACTURERS AND SUPPLIERS ARE PRESENTED IN BRIEF FORM. FOR ADDITIONAL INFORMATION, PLEASE USE THE ACCOMPANYING COUPON.

## No. 7363—Screen Frame Treatment

A special chemical "bath" has been developed by the S. Howes Co., Inc., to treat the wooden screen frames used in its grain cleaning machines.

The new process utilizes a special chemical which penetrates deeply into the pores of the wood, completely eliminating, according to the company, all possibility of warping. In addition, the chemical treatments make the screen frames resistant to fungus and insect damage.

It is said that the new chemical treatment will assure perfect alignment of screens under all conditions of temperature and humidity.

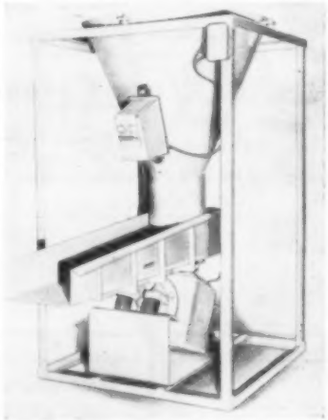
For additional information, check No. 7363 on the coupon and mail.

## No. 7370—Feeder Machine

The Eriez Manufacturing Co. has announced development of the new Eriez Hi-Vi Volumatic Feeder Machine that is said to assure precisely measured delivery of dry bulk materials.

This feeder-hopper-vibrator combination is designed for small batch operations, packaging and bagging operations, weigh scales and for use where additive feeding is performed continuously or intermittently.

It is described as a compact, enclosed, one-piece machine that provides a built-in hopper and vibratory feeder with a unit vibrator attached



to the hopper. Precise controls and dual vibratory action, as well as instant starting and stopping, says the company, make possible measured discharge rates for moving material from storage bin to feeder.

Maintenance-free variable transformer type AC controls, installed on the frame or remotely, can be furnished with a dual control for fast and dribble feed rates where necessary.

Various timers are available for any number of timed or intermittent feeding phases. The company says that the heart of its Hi-Vi drive system is a permanent magnet which in effect replaces rectifiers by providing an inherent rectification system which is said to add efficiency.

The magnetic drive and an associated spring system push up and forward on the tray assembly and then pull down and back. This movement is imparted to the material in the tray causing it to move forward in a series of hops.

The Eriez Volumatic Feeder is described as having the following benefits: elimination of rear-end dead spots and front-end flip, rugged steel hopper with adjustable discharge for easy removal, and cleaning and protection against moisture and foreign materials.

For additional information, check No. 7370 on the coupon and mail.

## No. 7364—Storage, Conveyor Liner

A fabric backed urethane specially designed to be used as a liner for handling grain, ore slurries, coal, coke, rock, sand and gravel, glass and other abrasive materials, has been developed by the Armstrong Cork Co.'s industrial division.

Called Armstrong PO-663, the new material is said to provide maximum abrasion resistance, reduce cost by protecting expensive chutes and

equipment, have longer life, allow use of thinner gauge materials, reduce maintenance cost, and be easily installed by cementing or bolting. Note photo that shows unlined grain chute at right and lined chute at left, both used the same length of time.

PO-663 is available in standard stock sheet sizes ranging from 12 x 30 in. to 96 x 40 in. in 1/16, ⅛ and ¼-in. gauges. Special sizes and gauges are available on request.

For additional information, check No. 7364 on the coupon and mail.

## No. 7366—Vitamin-Mineral Powder

A new higher potency vitamin-mineral powder—Vionate for Pets—that is said to incorporate the most recent findings in small animal and avian nutrition is being marketed by E. R. Squibb & Sons.

A modification of the basic Vionate formula, Vionate for Pets is reported to be a better tasting, specifically-balanced formulation to prevent nutritional deficiencies in dogs, cats, birds and other small animals of all ages.

Containing 21 vitamins and minerals, the new Squibb product fulfills a specific need in animal growth, health, vigor and reproduction, states the company.

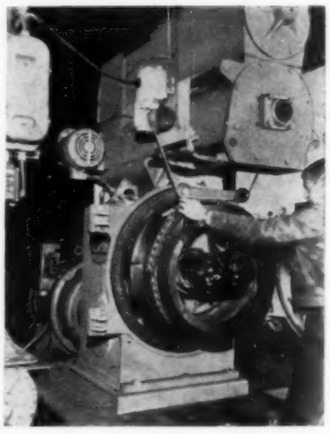
A new package for the product, designed to attract and sell pet-lovers, features an appealing pup, cat and bird on a red and green label. Vionate for Pets is available in 8 oz., 2 lb.

and 10 lb. canisters, as well as 50 lb. bags.

For additional information, check No. 7366 on the coupon and mail.

## No. 7365—Heavy-Duty Pellet Mill

A new heavy-duty pellet mill model, named the CPM Model "200," has been announced by California Pellet Mill Co. Currently in production, sev-



eral units have been in actual field service for more than two years.

Powered by either a 150 or 200 h.p. motor, these mills employ huge dies that weigh well over 600 lb. The Model "200" was designed for the larger, rough-duty dairy, beet pulp and beef cattle operations where pellets ¾ in. and larger are produced on a high volume basis. It is said that the capacity of this new model, per horsepower input, has exceeded anything previously considered possible.

The Model "200" is equipped with the CPM "Whirly Feeder," an earlier California development which is "specially adapted to increase the pellet mill's capacity" in handling bulky, light-weight roughage feeds.

The Model "200" will be on display at CPM booths 106-109 at the National Feed Industry Show in Chicago, May 7-10. For additional information, check No. 7365 on the coupon and mail.

## No. 7369—Feed Supplements

Four new products for feeding livestock have been put on the market by Vit-A-Way, Inc., manufacturer of patented mineral-vitamin supplements and fortifiers.

Three of the new products are in block form. The fourth is a one-package mineral-vitamin and antibiotic premix fortification for swine feeds.

The new block program consists of an all purpose mineral-vitamin supplement block being sold under the trade name of Vit-A-Blok; a 37% protein block under the Vit-A-Way label, and a protein supplement block for horses called Hi-Horse that is said to be highly fortified. All blocks are packaged in corrugated cartons.

Forti-Pak is the trade name for

Send me information on the items marked:

- ☐ No. 7363—Frame Treatment
- ☐ No. 7364—Conveyor Liner
- ☐ No. 7365—Pellet Mill
- ☐ No. 7366—Vit.-Mineral Powder
- ☐ No. 7367—Scale Program
- ☐ No. 7368—Hanging Feeder
- ☐ No. 7369—Feed Supplements
- ☐ No. 7370—Feeder Machine
- ☐ No. 7371—Truck Leasing Plan
- ☐ No. 7372—Grain Facilities Booklet

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Dr. SALSBURY'S
Unistat®
TON-PAK
Medicates 1 Ton of Chicken Feed
FOR COCCIDIOSIS PREVENTION, GROWTH STIMULATION, INCREASED FEED EFFICIENCY, AND BETTER PIGMENTATION IN CHICKS AND GROWING CHICKENS
DIRECTIONS
Dr. SALSBURY'S LABORATORIES

Dr. Salsbury's Unistat and 3-Nitro are now available in handy batch-size packages. Each of these TON-PAKs contain the right amount of product to medicate one ton of complete poultry ration. Supplies of the new TON-PAKs are available from your Dr. Salsbury's distributor or direct from the Dr. Salsbury's branch through which you are serviced. Once you've tried them, you are likely to keep on using them because of their many advantages.

# New Ton-Pak

- Eliminate need for further premixing
- Do away with errors in weighing drugs
- Accelerate mixing operations
- Provide positive inventory control, both of drug stocks and tons of feed medicated
- Eliminate the hazard posed by opened, partially-used drug containers
- Minimize possibility of contaminating other feeds
- Allow wider drug choice at the mixing level
- Reduce total mill inventory of premixes and concentrates needed to provide different drug components

## These fine Dr. Salsbury additives now available in TON-PAKs ...for your convenience

***UNISTAT® The No. 1 Coccidiostat***

The leading feed additive of the giant broiler industry —in the feed of over a billion birds a year. Unistat provides superior coccidiosis prevention, growth stimulation, improved feed efficiency, and better pigmentation in chicks and growing chickens. Also recommended as a valuable aid in growing replacement birds for layer flocks. Unistat is now available in cartons containing twenty-four 2-lb. TON-PAKs (48 lb. Unistat).

***3-NITRO® Powder, the Growth Stimulant of Choice***

Aids in stimulating growth, increasing feed efficiency and better pigmentation in chickens and turkeys; earlier egg production in chickens; better livability; increased egg production and feed efficiency in laying flocks; preventing bluecomb in turkeys; stimulating faster, more uniform growth and increasing feed efficiency in swine. 3-Nitro is now available in cartons containing forty-eight 1-lb. TON-PAKs.

Dr. SALSBURY'S LABORATORIES
Charles City Iowa, U.S.A.

*MORE THAN PRODUCTS—A SYMBOL OF SERVICE*

the ROSKAMP line

*Constructed for years of use. Engineered for easy, sure control. Solid white iron rolls for guaranteed performance. You will be satisfied or get your money back.*

◆

**GRAIN ROLLER MILLS**

**FOUR MODELS: Single duty, shortened single duty, double duty and dual purpose.**

**SIX SIZES: 9x12, 9x18, 9x24, 9x30, 12x30 and 9-12x30.**

**CAPACITIES: From 75 to 300 bu. of oats or from 200 to 1,000 bu. of corn per hour.**

**PELLET CRUMBLERS**

**8x36 and 8x48 sizes for reducing pellets at 8 and 12 tons per hour.**

**CORN CRACKERS**

**8x48 with a capacity up to 1,600 bu. of corn per hour. Also made to fit corn shellers.**

**FLAKING ROLLS**

**Manufactured for use with the Challenger Oat Huller or for individual flaking operations.**

**CHALLENGER OAT HULLER**

**150 bu. of clean hulled oats per hour.**

Clip this coupon to your letterhead and send to Roskamp for FREE literature on how to save in processing grain. (560)

ROSKAMP HULLER MFG. CO.

634 Grand Boulevard Cedar Falls, Iowa

the new Vit-A-Way swine feed fortifier. This is said to be a complete all-in-one package fortification for all swine feeds. It offers four-way stabilization of the mineral, vitamin and antibiotic elements, according to the manufacturer.

Forti-Pak is packaged in a dual 25 lb. bag which is so divided that the mineral premix is on one side and the vitamin-antibiotic premix on the other. When the bag is opened for mixing purposes, both premixes pour out of separate compartments.

For additional information, check No. 7369 on the coupon and mail.

## No. 7367—Scale Maintenance Program

Causes of scale error and the steps required to eliminate it are outlined in a new eight-page booklet issued recently by the Howe Scale Co.

The booklet discusses the most common causes of scale error and the serious cost control problems that result from it. It points out the step by step procedure required to eliminate the dangers of scale error.

Also discussed are the special equipment and training needed to carry out a satisfactory scale service program and the costs involved.

For additional information including a copy of this booklet, check No. 7367 on the coupon and mail.

## No. 7371—Truck Leasing Plan

A new, low-cost plan under which special-body trucks used in the feed and milling industries can be leased without maintenance for from four to eight years, has been announced by Wheels, Inc.

The long-term lease plan, according to Armund J. Schoen, president, was an innovation for special-body, over-the-road equipment used by feed and milling firms. This equipment can now be leased without full maintenance, repair, and garage service.

"There is no limit to the type of special bodies and chassis which can be leased under this special-body truck lease plan," said Mr. Schoen. "Units can be engineered to the most rigorous specifications to meet the most unique service requirements. In this way companies can be relieved of the need to invest considerable working capital in these costly units of transportation equipment."

Some features of the special-body truck lease plan, as described by the company, include: Wheels' truck engineers will engineer the bodies and chassis to the user's precise specifications and Wheels will supervise the manufacture of bodies and chassis.

For additional information, check No. 7371 on the coupon and mail.

## No. 7368—Hanging Feeder

An all new 30 lb. capacity hanging feeder is now available from the Fulton Co. The new feeder features a special tapered tube designed to prevent bridging of high fat feeds.

In addition, the pan has a new

three level feed flow control and clip that prevents birds from knocking it loose from the tube. The pan has an inverted "V" bottom to aid feed flow and its 3 in. depth provides birds easy access to the feed.

For additional information, check No. 7368 on the coupon and mail.

## No. 7372—Grain Facilities Booklet

A booklet entitled "Grain Industry, Highest Profit Suggestions—Package Plants 18,000 to 81,000 Bushel Capacity," has been developed and released by the Aeroglide Corp.

It is said that the booklet incorporates "the most economical grain storage, receiving and handling facilities ever proposed for use in conjunction with Aeroglide grain driers."

Described and illustrated in the booklet are arrangements that are planned so that they can be expanded either by adding storage or by incorporating further processing machinery.

The booklet shows over-all space requirements in a plan view, and illustrates flow patterns with a pictorial presentation of each layout. A full listing and description of all equipment required to build the plant are included with each arrangement.

For additional information, check No. 7372 on the coupon and mail.

## *Also Available*

**The following new products have been described in previous issues of Feedstuffs and information about them may still be obtained by jotting the appropriate number of the coupon and forwarding it to Feedstuffs.**

**No. 7284**—Mobile feed mill, Daffin Manufacturing Co.

**No. 7285**—New pig brooder, Nutrena Mills, Inc.

**No. 7286**—Mobile mill extension loader, Seco, Inc.

**No. 7287**—Cellulase enzyme, Miles Chemical Co.

**No. 7288**—Grain weighing systems, Howe Scale Co.

**No. 7289**—Feed mix for grub control, Dow Chemical Co.

**No. 7290**—Poultry disease bulletin, Dr. Salsbury's Laboratories.

**No. 7291**—Grain dryer lease plan, Daycom, Inc.

**No. 7292**—Egg room cooler, The National Ideal Co.

**No. 7293**—Mixer-blender, A. W. Stauffer & Sons, Inc.

**No. 7294**—Fertilizer spreader, The Henderson Manufacturing Co.

**No. 7295**—Poultry and livestock equipment, Brower Manufacturing Co.

**No. 7296**—Bulk truck bodies, FMC Bulk Transport Systems.

**No. 7297**—Ketosis medication, Sheffield Chemical Co.

**No. 7298**—Auto leasing study, Foundation for Management Research.

**No. 7299**—Electrical control systems, SEMCO Electric Controls, Inc.

**No. 7300**—Mobile pelleting machine, Daffin Manufacturing Co.

**No. 7301**—Feed-health program, the American Cyanamid Co.

**No. 7302**—Bucket elevator, the Shelby Manufacturing Co.

**No. 7303**—Water medication, Dr. Salsbury's Laboratories.

**No. 7304**—Continuous flow dryer, A. T. Ferrell & Co.

**No. 7305**—Herd treater, Chas. Pfizer & Co.

**No. 7306**—Fertilizer spreaders, the Simonsen Manufacturing Co.

**No. 7307**—Grain dryer, the Rolfes Grain Aeration Co.

**No. 7308**—Bin ventilator, the Tierney-Gerber Roto Vent, Inc.

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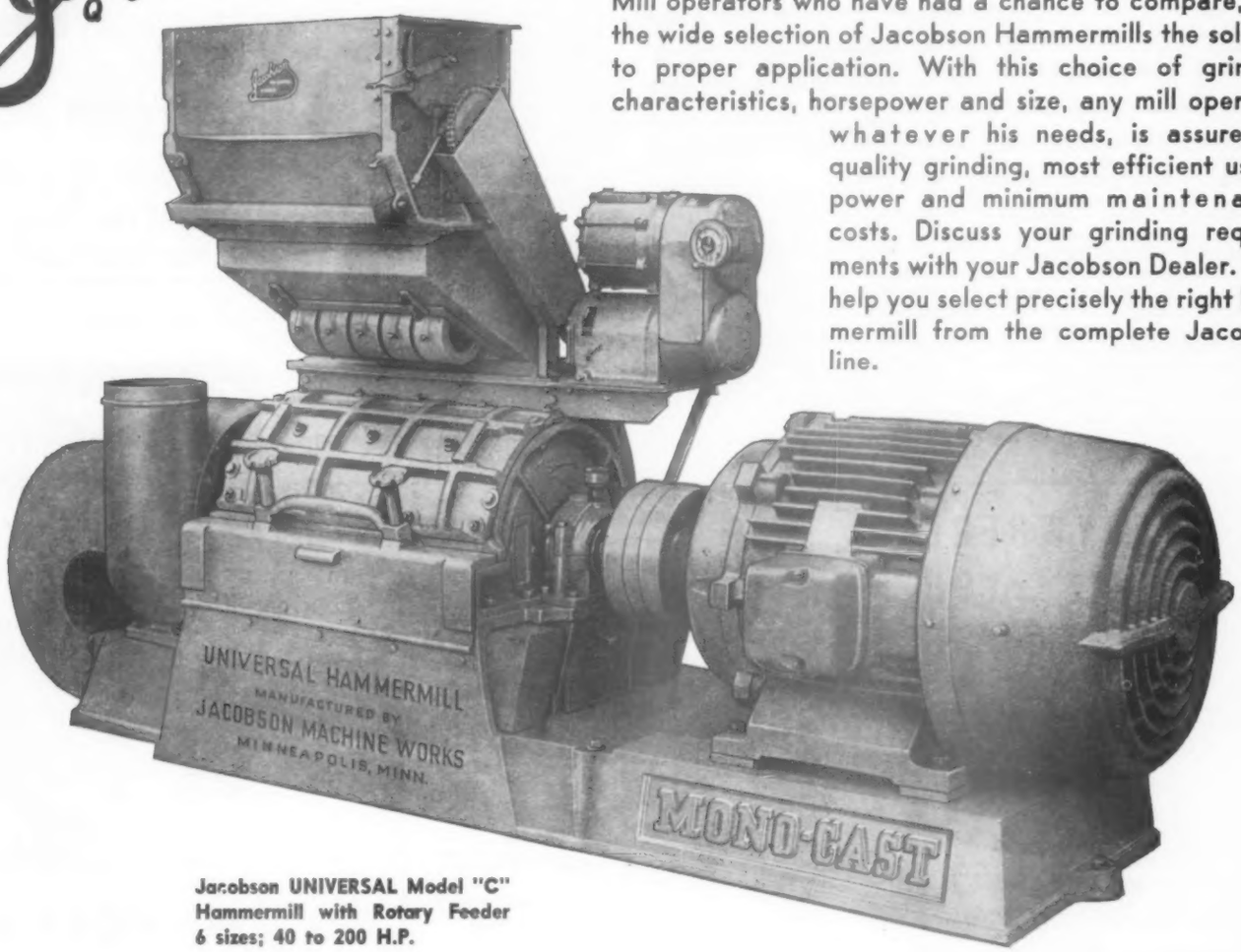
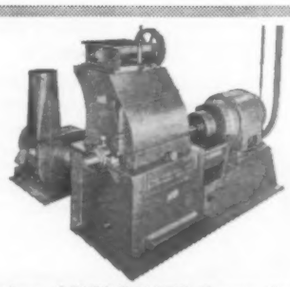
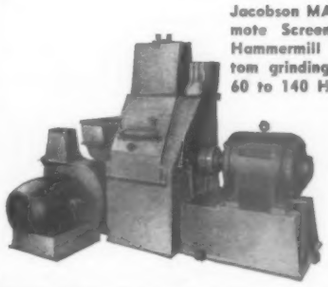



**Jacobson UNIVERSAL Model "C" Hammermill with Rotary Feeder 6 sizes; 40 to 200 H.P.**



**Jacobson AJACS-O-MATIC Remote Screen Change Hammermill. 4 sizes; 50 to 160 H.P.**



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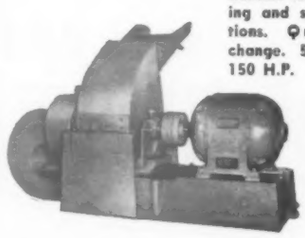
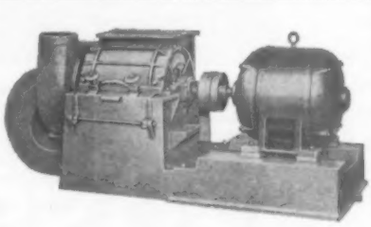
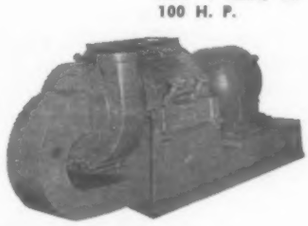


**Jacobson AJACS Hammermill for custom grinding and special applications. Quick screen change. 5 sizes; 20 to 150 H.P.**



**Jacobson UNIVERSAL "Junior" Hammermill. 3 sizes; 10 to 50 H.P.**



**Jacobson AJACS Model "IT" Hammermill. 4 sizes; 20 to 100 H. P.**

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**Jacobson PULVERATOR for moderate grinding capacity or finishing dry products. 5 sizes; ¾ to 15 H.P.**

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**No. 7314**—High flow dryer, The Ace Supply & Equipment Co., Inc.
**No. 7315**—Merchandising tool, Minute Maid Co.
**No. 7316**—Grain viewer, Gerber Sheet Metal, Inc.
**No. 7317**—Industrial mills, The Prater Pulverizer Co.
**No. 7318**—Molasses blender, The S. Howes Co.
**No. 7319**—Hanging waterer, The Oakes Manufacturing Co.
**No. 7320**—Feed handling, Sprout, Waldron & Co.
**No. 7321**—Bag closure equipment, West Virginia Pulp & Paper Co.
**No. 7322**—Digestive aid for poultry, Western Condensing Co.
**No. 7323**—Grain fumigation, Ferguson Fumigants, Inc.
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**No. 7328**—Manlift safety device, Humphrey Elevator Co.
**No. 7329**—Thread clipper, Minneapolis Sewing Machine Co.
**No. 7330**—Feed analysis table, Amburgo Co.
**No. 7332**—Protective liners, Protective Lining Corp.
**No. 7333**—Feed antioxidant, Monsanto Chemical Co.
**No. 7334**—Vitamin A product, Nopco Chemical Co.
**No. 7335**—Remote control speed changer, The Reeves Pulley div. of Reliance Electric & Engineering Co.
**No. 7336**—Bulk and bag transport body, Dodgen Industries.
**No. 7337**—Beef cattle feeding program, Chas. Pfizer & Co., Inc.
**No. 7338**—Poultry stress product for water, Dawes Laboratories.
**No. 7339**—Level control probe, Flo-Tronics, Inc.
**No. 7340**—Hanging waterer, The Fulton Co.
**No. 7341**—Pellet mill roll corrugation, The Alloy Hardfacing & Engineering Co.
**No. 7342**—Automated feeding system, Baughman Mfg. Co.
**No. 7343**—Distillers feed bulletin, Distillers Feed Research Council.
**No. 7344**—Phosphoric acid and molasses, Pacific Molasses Co. and A. R. Maas Chemical Division of Stauffer Chemical Co.
**No. 7345**—Business expansion plan, Butler Mfg. Co.
**No. 7346**—Insulated egg room door, Keen Mfg. Corp.
**No. 7347**—Hatching egg, incubator sanitizer, Vineland Poultry Laboratories.
**No. 7348**—Bulk truck unit, FMC Bulk Transport Systems.
**No. 7349**—Electric motor, Reliance Electric & Engineering Co.
**No. 7350**—Turkey range feeder, Oakes Mfg. Co.
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**No. 7352**—Turkey medication, Upjohn Co.
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**No. 7354**—Grain Trailer, Wilson Trailer Co.
**No. 7355**—Grain storage building, Parkersburg Rig & Reel Co.
**No. 7356**—Electric motor bulletin, The Reliance Electric & Engineering Co.
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**No. 7358**—Individual scours treatment card, Specifide, Inc.
**No. 7359**—Net weight scale, Toledo Scale Corp.
**No. 7360**—Feeder-hopper, Cleveland Vibrator Co.
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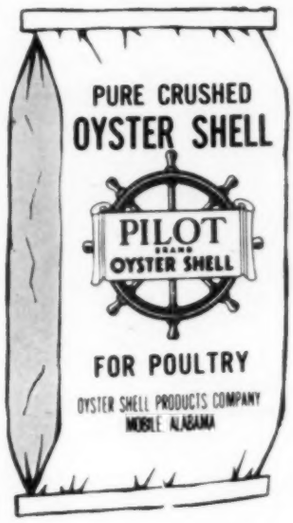


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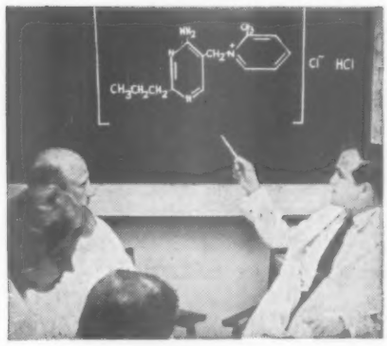

# *Unique* CHEMICAL STRUCTURE *...new type of* ANTICOCCIDIAL ACTIVITY

## NOW...FROM THE LEADER IN COCCIDIOSIS RESEARCH

AMPROL...the latest addition to the Merck family of coccidiostats...combines a highly desirable balance of efficacy and safety. Having undergone intensive study and testing under the most advanced methods, it promises to be a truly effective coccidiostat for use in broiler feeds. It is the first coccidiostat evaluated against 44 strains of seven species of coccidia.

### UNIQUE ANTICOCCIDIAL ACTION

The chemical structure of AMPROL differs completely from that of any other coccidiostat in the industry's history – it is similar to that of thiamine. At recommended use levels it appears to interfere with the thiamine metabolism of the coccidia, but does *not* affect the normal thiamine metabolism of the chicken, a mode of action entirely different from any other coccidiostat.

### SIGNIFICANT COMMERCIAL ADVANTAGES

The value of AMPROL can be measured by its efficacy and its favorable margin of safety...plus the fact that it permits attractive weight gains and feed conversions. Tests to date have not shown any significant ability of coccidia to develop resistance to AMPROL – indicating a most promising role for years to come – in the management of coccidiosis.

### EFFICACY

Exhibits important activity against major coccidia – especially *Eimeria tenella* and *E. necatrix,* under a variety of conditions. In laboratory comparisons with mixed infections of cecal and intestinal coccidiosis, AMPROL gave more protection than other coccidiostats.

### PRODUCTION PERFORMANCE

Excellent growth and feed efficiency. After a year of experiments against control flocks, under practical commercial-type conditions, broilers on AMPROL showed higher final weights with favorable feed conversions.

### CONSISTENT PERFORMANCE

Tested birds were exposed to four consecutive generations of ten virulent strains of *E. tenella* which did not develop significant resistance to AMPROL.

### SAFETY

Well tolerated up to four times suggested use-level of 0.0125%. Side effects noted above 0.05% level are specifically related to thiamine-depletion and are quickly reversible, a simple corrective procedure unique with AMPROL. Feeding trials indicate recommended use-levels will not affect egg quality, egg production or hatchability. No toxicity observed when feeds containing AMPROL are fed to other animals.

### USE-LEVELS

Recommended use-level for most field conditions is 0.0125%. Where adverse conditions and less sensitive strains of coccidia prevail, use the 0.025% level.

### NOW...WITH ANTIBIOTICS

For further information, contact your Merck representative or write to Agricultural Products, Merck Chemical Division, Merck & Co., Inc., Rahway, New Jersey.

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**TWO TON LITTER**—Mr. and Mrs. Wilson Cox, Ft. Atkinson, Wis., are shown with 19 pigs raised to a record 4,045 lb. in five months and seven days.

## 2-Ton Litters Highlight Feed's Progress

CHICAGO — Two ton litter clubs are proving to be just as challenging a possibility for today's hog men as were the one ton litter clubs of their fathers' day—and just as attainable.

That's the word from Dr. J. E. Hunter, Allied Mills, Inc., vice president and director of the Wayne Research Farm, Libertyville, Ill. He says his observations are based on some recent records reported by his firm's customers on the Wayne hog program.

The latest record, set by Wilson Cox, Ft. Atkinson, Wis., was for 19 pigs born July 28, 1960, which weighed 4,045 lb. at five months and seven days of age. An earlier record was made in 1958 by Joe Armstrong, Princeton, Ind., whose 19 pig litter reached 4,005 lb. at the same age.

"The real significance of the records," Dr. Hunter points out, "is that both were made under practical farm conditions, with feeds regularly stocked on a dealer's floor as part of the Wayne hog program, at costs per pound of gain highly competitive with those for any ordinary litter."

Feed cost of gain, birth to market, for the Cox litter was $8.38 per hundredweight achieved with a conversion of 2.91 lb. feed per pound of gain. In the Armstrong litter, feed conversion was 2.8, with a feed cost of $10.28 per hundred pounds of pork, Allied Mills reports.

"Several steps in management, housing and nutrition had to be improved to make a two-ton goal practical," observes Dr. Hunter. "These two records demonstrate that this has been achieved.

"The key in management is in how to care for the new-born pigs, and how to early-wean. We just don't have sows capable of nursing that many pigs. Housing and equipment had to be developed to save overlaying losses. Nutritional improvements had to be made at several steps: during the breeding and gestation period to get large litters of husky pigs and in the nursing period, to get growth rates in early-weaned pigs comparable to those of pigs on the sow. Modern gestation rations, milk replacer and early starting feeds can now achieve these goals."

Allied Mills manufactures fortified pig starters under the brand name of "Tail Curler."

## New Feed Plant Opens

PORTLAND, ORE. — Western Farmers Assn. has started producing feeds in its new plant located on a 10-acre site in the Mocks Bottom industrial area along the Willamette River here. In addition to producing a full line of livestock and poultry feeds, this expanding firm plans a sizeable egg candling operation.

### INDIANA OPEN HOUSE

WASHINGTON, IND. — The Daviess County Farm Co-op held an open house recently at its new $275,000 feed mill and grain elevator completed recently in Washington.


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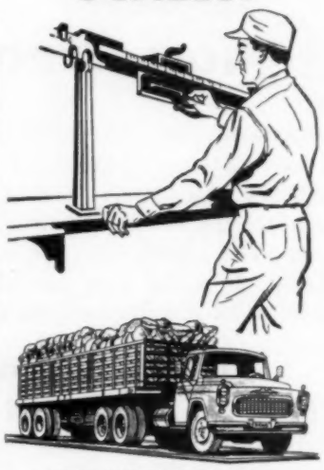

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**The feed man described in the accompanying story claims that the large poultryman is not only price conscious when it comes to buying feed, but he is also a volume buyer. Many feed dealers, he reports, have been thrown into a feed delivery or trucking service.**

# *Eastern Feed Man Offers Some Industry Answers*

**By Charles L. Stratton**
**Special Writer**

What are some of the industry developments in the feed and poultry field in the Northeast? What's new in meat bird contracts?

An eastern feed man recently offered some comments and views on these and other points while describing some of his own operations.

This feed man does a business of about $1½ million annually, selling his own brand of poultry feed. He has feeds made to his order and then sells them on the road, servicing all accounts and customer flocks. He works through some dealers, with the dealer delivering the feed and receiving a trucking charge.

Meat bird contracts are touchy and competitive, but this feed man has the answer to what he refers to as "an integrated survival program" consisting of feed man, hatchery and processor. "Over the years," he says, "I raised over 2 million meat birds on my own on contract. I financed the whole thing alone . . . and I took a terrific beating. Now I don't raise a single bird alone—it's a three way deal between feed man, hatchery and processor."

**Inflated Prices**

He says that under the older type three-way deal, the feed man, hatchery and processor, everybody concerned, inflated prices instead of basing them on wholesale plus a reasonable markup to cover operating costs. "Instead of, say a $2 a ton profit, the feed man was trying to get $10. Instead of charging 13¢ per chick the hatchery outpriced itself at 15¢. Nobody was making any money. It was a continuous squabble between all parties concerned.

"Under our new three-way deal, everybody gets a break—the feed man, processor and hatcheryman. Even the grower gets in. He is referred to as an independent and is protected by a 17¢ guaranteed floor price for his birds. He can draw ½¢ per week per bird advance. The feed man, hatcheryman and processor split all losses or profits three ways —now nobody gets hurt during a price drop. Any one segment doesn't take all the losses individually. Grower incentive? He keeps all money above the floor price. As a unit in this three-way deal, we can go 2 to 2½¢ below market price and break even.

"Our new three-way contract growing program has been in operation one year. What happened? Our loss has been nil and we have even made a small profit on some flocks. On a 6,000 bird flock, for example, we might take a small loss of $8 to $10 apiece."

**Each Segment Skilled**

This feed man points out that each segment carries out its own end in this growing program. Each is skilled in its own particular phase. The hatcheryman is responsible for the breeding, hatchery and delivery of chicks. The feed man supplies feed, services the flocks, and does the bookwork. Nor is it necessary under this plan for any segment to hire additional labor or buy extra equipment. Each uses his own crews and equipment. The processor trucks the birds into the plant, deducting his grower advance from the check in payment for the birds and turns the balance of the check over to the feed man. The feed man pays all the bills and doles out the profits.

Company farms? "Not here," says this feed man. "If a grower is part of the deal, he'll do better than if he were just working for you. I had a situation once where I was financing everything—the growers just didn't care if their management was poor. This three-way deal helps eliminate this problem."

This feed man once had a hatching egg hookup with a hatchery for about 1¼ years with some 25,000 birds on feed. "You have to know the grower and the egg production in this case," he warns. "Generally, feed consumption is known right down to the pound per 100 birds. If feed consumption was excessive we looked for theft. We warned one fellow caught red-handed that we were all losing because of his actions. He was told if he didn't correct his ways we'd pull the birds out. On a hatch-

**The feed man featured in this story says that he doesn't have to set up a single meat bird farm today. "They're all set up and 90% have the required equipment. Most of the mediocre farms have been eliminated," he states.**

ing egg deal, the grower cased the eggs and the hatchery picked them up and graded.

"As a feed man, I serviced the flocks. We ran into a problem of poor hatchability on one farm. I checked out the feed and the breeders. Everything was okay. It was discovered the grower wasn't picking up the eggs during cold weather until 11 a.m. The chill had killed the embryo. We made him realize eggs had to be picked up four and five times a day.

**Verbal Contracts**

"Our contracts with meat bird growers are verbal," he adds. "We keep our agreement and the grower is expected to do the same. Frankly, all programs are flexible. If we're losing money we can cut electricity allowance, cleanout periods, and even weekly payments. If we could do the required volume business with independents, we'd all be better off—each of us sharing the losses and profits. I'm in the feed business, I'm not a banker. As for the feed man, hatchery man and processor, growing meat birds is a survival program. Our farms range from 1,500 to 12,000 birds, average farm size is between 6,000-7,000 birds."

Mechanical feeders? "Yes," he says, "if the grower owns the operation. We find that many contract growers using mechanical feeders don't go beyond the first pen, thus neglecting lights, feed, ventilation, and so forth. I recommend hand feeding so the grower must go into all pens."

This feed man says there is no such thing as a feed territory. A good businessman creates his own opening regardless of competition.

"Too many fellows have the impression that a feed mill makes a profit of $10 to $15 per ton," he says. "If it were true, the feed mills would be sitting pretty today. However, if a feed mill could clear 50¢ a ton at the end of the year, it would be the difference between profit and loss.

**Contract Trend**

"Big mills are being forced into all types of contracts," he says. "Today, too many mills are geared for a loss. Each mill has got to obtain a specific volume to show a profit. They can't survive working with independent producers as there isn't enough volume. The mills have got to get in on the deals themselves—roasters, broilers, market eggs. Besides, the independent with ½ million birds will have his own small feed mill."

The feed man explains that if a feed mill, producing a dozen carloads of feed daily, is forced by competition to go into pushbutton operation to cut labor and tonnage costs, it's got to increase its volume to retain its help and show a profit.

The large poultryman is not only price conscious when it comes to buying feed, but he is also a volume buyer. Where does that leave the feed dealer? "He is thrown into a feed delivery or trucking service," replies the feed man. "He also takes on building supplies and other sidelines like farm equipment, hardware, poultry supplies and makes use of his storage space. At one time it was a good deal selling medication, but now the big accounts buy direct from the labs."

He believes more feed manufacturers will be sidetracking dealers because dealers are not financially able to stand the losses of big accounts. "The dealer just isn't in any position to handle big business," he explains.

**Trucking Business**

"A lot of dealers are paid solely for trucking feed," he continues. "Some dealers handle several brands to keep their trucks going — they just can't afford to run a truck for one firm. Present dealer payments run about $4 per ton for delivering bag feed. On bulk feed handling, where labor expenses are cut, de-

**K. C. FEED CLUB SPEAKER**—J. W. Hogan, manager of the grain and grain products buying department of the Ralston Purina Co., St. Louis, spoke to the Kansas City Feed Club recently on the topic, "Price Stability of Grain and Commodities in the Feed Industry." He is shown in the center above being thanked by G. Robert Coughenour, Rodney Milling Co., club president. At the left is B. C. McCoy, regional buyer for Ralston Purina Co. in Kansas City, who introduced Mr. Hogan.


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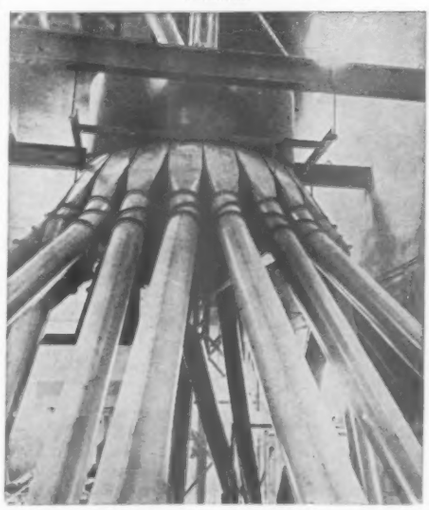

This illustration shows a typical Roto Flo installation using reversible elbows and Gerber's high quality bin spouting.

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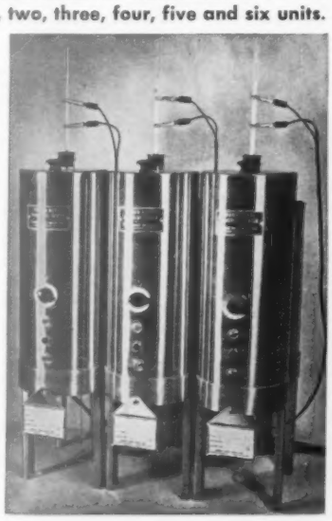

Keep Your Grain Quality Up With the
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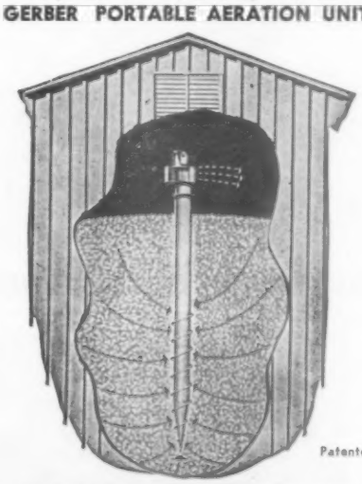

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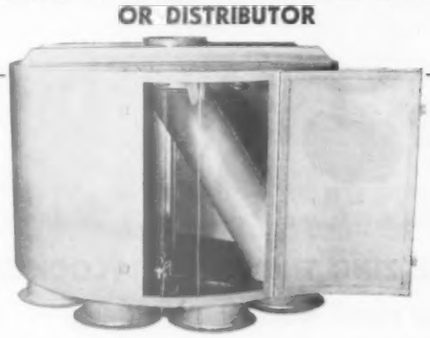

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**UTAH REFRESHER SCHOOL—Seventeen Pillsbury dealers recently attended a three-day dealer refresher school on feed programs and merchandising techniques at Ogden, Utah. The course was conducted by F. J. Steinmetz, Pillsbury feed division training manager. Attending the school were, seated left to right, John Sorenson, Kipp Parker, Bert Rhodes, Bert Larsen, Bob Pratt and Stan Schindele. Standing, left to right, Verl Odell, A. L. Ipsen, Hilton Clark, Jerry Cover, H. P. Armor, Dick Kapple, Ned Bell, Leon Clark, Garth Shupe, Calvin White and Frank Steinmetz.**

livery payments run between $2.50-$3 per ton."

Some of this feed man's most active dealers don't even sell a single ton of his feed, though they may be getting four and five carloads of feed weekly. Dealers truck direct from siding to the account's local farms. The feed man keeps the records and takes the credit responsibility, billing the integrated grower or firm direct. The feed dealer is retained in business by renting his services and equipment.

**No Contract Farm Problem**

"You don't have to set up a meat bird farm today," he says. "They're all set up and 90% have the required equipment. A lot of the mediocre farms have been eliminated. Today's growers require less servicing and can detect various ailments. Four years ago I had to call on a grower every week. Today, thanks to improved management, I visit some farms only once in two weeks.

"We keep the good grower working, holding onto him through thick and thin. Sloppy growers get birds only when we get stuck with baby chicks or the market is good. It's usually a one-shot deal; a sloppy grower hasn't got much of a chance."

He claims there is no free enterprise in any segment of the poultry industry. "We've got to play ball," he advises. "The industry, as a whole, has come a long ways in the past couple years as far as farm management and efficiency are concerned. Everybody reached the bottom of the barrel and were forced to become efficient."

He advises not to run down a competitor's product. One of his good market egg producers was offered feed at $6 per ton less. He pointed out that feed cost doesn't always mean it's the most profitable feed by helping the producer run feed tests between identical pens under the same conditions. The producer discovered he was making $2.25 a day more per 400 birds on the higher priced feed. He offers the same type of test to meat bird growers when approached by competitors.

This feed man sums up the situation with: "Growing meat birds is a survival program for the processor who requires a constant supply of birds, the hatcheryman who requires a constant chick market, and the feed man who requires a specified volume. The grower is working and getting his weekly pay. Other than the markups in the grocery stores on poultry, nobody is making big money. As I said, 'It's a survival program'."

## S. Howes Co. Holds Winter Sales Meeting

CHICAGO — "Meeting the Challenge" was the theme of a meeting of the entire S. Howes Co. sales staff held recently in Chicago.

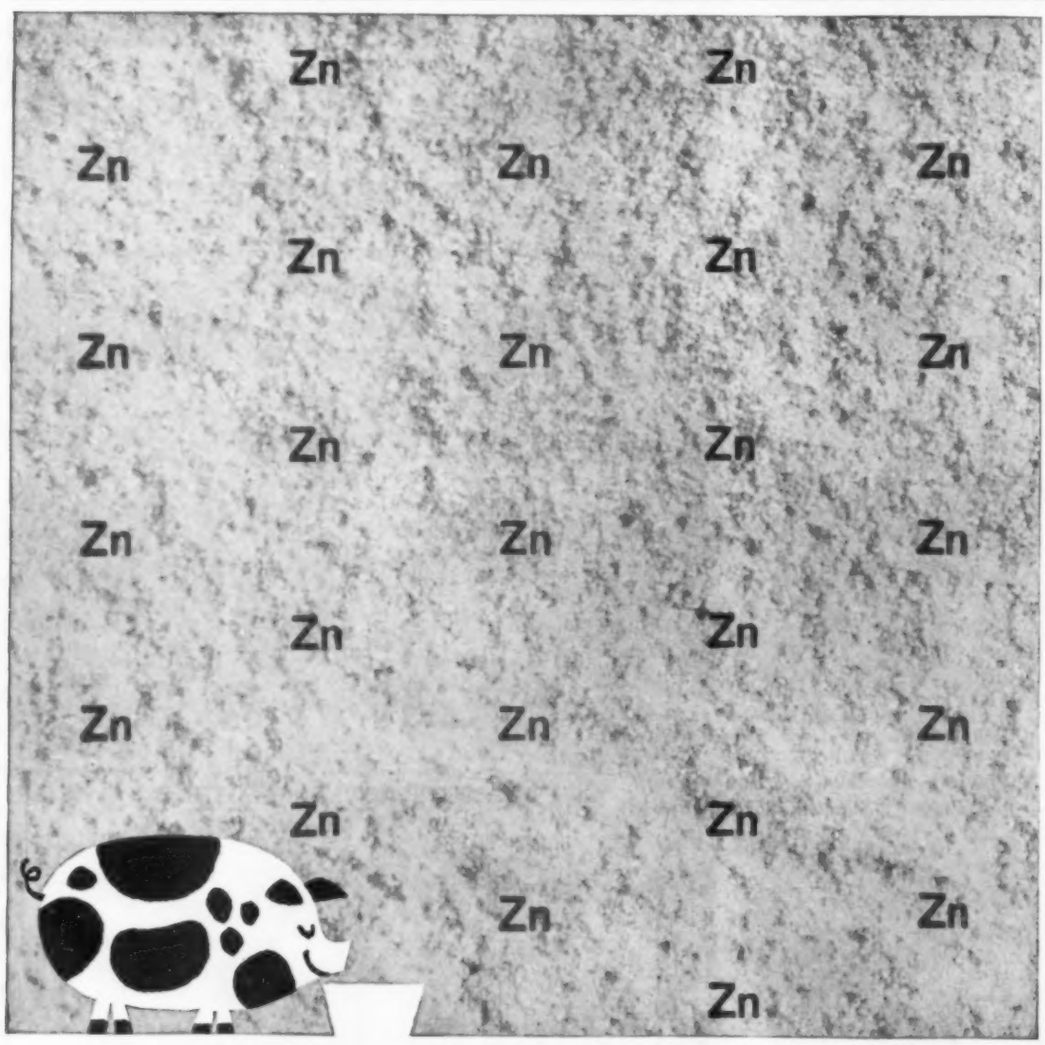
The two-day meeting was under the direction of George R. Willis, vice president of sales for the Silver Creek, N.Y., equipment manufacturer. All sessions were held in the executive suites of Weller's Motor Lodge in Chicago.

Although some sessions were devoted to S. Howes products, particularly the new moisture tester the company now handles, the primary purpose of the meeting was to outline the company's new approach to sales and marketing for 1961 and the years ahead, and to orient new sales representatives.

"This meeting was devoted to a discussion of the many problems which face the entire feed industry in the decade ahead," said Mr. Willis.

Mr. Willis also presented in detail the company's entire 1961 advertising and sales promotion program, geared to the theme of "Meeting the Challenge."

Other subjects discussed at the meeting included grain banking, the problems encountered with crotalaria seed, and techniques for marketing of new products.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Des Moines, Iowa

F-10R

# Illinois Swine Day Reports Cover Housing, Nutrition, Marketing, Disease

By Special Correspondent

CARBONDALE, ILL. — Most hog producers in the U.S. are using more space than is needed for growing and finishing hogs under confined feeding conditions, Riemond H. Rippel, Jr., Secor, Ill., told hog farmers attending Southern Illinois University's fourth annual Swine Day program. More than 225 attended the event.

Mr. Rippel, a 1960 S.I.U. M.S. degree graduate now studying for a doctorate in animal science at the University of Illinois, reported his findings in a series of studies at S.I.U. last year on the effect of varying amounts of floor space on growing and finishing pigs. The work was carried on under the direction of Dr. Joseph S. Burnside, S.I.U. swine specialist.

In the series of experiments at Southern's swine center, Mr. Rippel studied the performance of pens of swine under the following square footage allotments of floor space per pig: 15, 13, 11, 9, 7, 6, 5, and 4. In the controlled experiments of nine pigs per pen, Mr. Rippel found that the daily gain and feed efficiency of the swine was not materially affected by reductions in total floor space per pig from the 15 sq ft. allotment down to 6 sq. ft. In fact, an increase in feed efficiency was indicated as the floor space was reduced.

However, when total space allotment went below 6 sq. ft. per pig, the daily rate of both gain and the feed efficiency suffered significantly. As the pigs reached the finishing stage, they were too crowded in the pens to reach the feeders easily, substantially reducing the rate of gain. In the two smallest pens the pigs required from two to five weeks longer to reach the market weight of 210 lb. than did pigs in the other pens.

### Little Difference

Pigs were placed in the tests at Southern Illinois University at about 50 lb. weight and remained in the pens until they were finished out at 205 to 210 lb. There were no material differences in the daily rate of gain between any of the pens having six or more square feet of floor space per pig. The average daily gain per pig varied from 1.60 to 1.71 lb. Average feed consumption varied from 5 to 6 lb. daily per pig.

There has been little specific earlier research on this problem, Mr. Rippel pointed out. Recommendations normally have been higher than his experiments indicate as necessary. A survey of many agricultural colleges and experiment stations showed rather wide variations in recommendations, but most were above 12 sq. ft. per pig, Mr. Rippel said.

Experiments with larger pens of swine were conducted last summer at S.I.U., using the university's enclosed feeding floor. Space allotments varied from 15 down to 7 sq. ft. per pig in four groups. The test involved from 34 to 46 pigs per pen. Performance results were similar to those obtained in the controlled experiments with smaller groups, Mr. Rippel said. Some seasonal variation showed up during the experiments.

### Double Production

On the basis of his findings, Mr. Rippel suggested that hog farmers using confined feeding methods for finishing out pigs for market may be able to double the number of units of swine that can be finished in a given space during the year. This could mean a substantial reduction in the cost of the building per unit of production.

Mr. Rippel said that pen cleaning labor was greater in summer when a fogging nozzle system was used for cooling the swine. It appeared that wetting the pens reduced the dunging selectivity of the swine. At other seasons, however, pen cleaning labor was considerably reduced by using wood shavings as bedding in the pens. Dunging then was largely restricted to an area of the pen near the waterers, leaving the rest of the pen comparatively clean for resting. The size of the dunging area decreased as the pen size was reduced.

**EUROPEAN SWINE LESSONS**— High quality and uniformity in pork is getting first attention among western European swine producers, Dr. Joseph E. Burnside, Southern Illinois University swine specialist, told hog farmers attending S.I.U.'s fourth annual Swine Day program. Dr. Burnside reported on some of his observations during a tour of major swine research and production centers in five western European countries during the first half of November, 1960.

U.S. farmers could take some lessons on economical and effective feeding and management practices from the European farms visited, he said. Special attention could be given to liquid feeding, differences in kinds of feed, the efficient feed conversion, and the innovations in manure handling. Labor abundance leads to much


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controlled hand feeding and other manual care of swine.

**Liquid Feeds**

European hog farmers cut waste by using liquid feeds, mixing water with the feed as it is put in the feeders. Dr. Burnside believes liquid feeding would be quite adaptable to automation. In fact, Arthur Richwood, one of England's biggest farmers who operates 8,670 acres, has worked out automatic liquid feeding of controlled portions of feed. He maintains a 500-sow purebred Yorkshire breeding herd.

Sugar beets, potatoes, barley, grass silage and by-products of dairying, such as whey and skim milk, are feed mainstays of the European hog farmer. These basic feeds are fortified with minerals, antibiotics and vitamin supplements. Major producers include some corn and soybean oil meal in their feeding programs, the amount depending on the import price.

Among examples of European operations, Dr. Burnside cited that of Heinrich Biehl of Hohenraden, Germany, who finishes out 22,000 hogs annually.

Mr. Biehl grows most of his feed on a 350-acre farm. Most crops—barley, wheat, ryegrass, sugar beets and potatoes—are converted into silage, his feeding mainstay. His secret to getting high silage consumption is to mix grain meal and supplements with the silage. Only sows on lactation get grain meal without silage.

Mr. Biehl farrows from 100 to 120 sows monthly, averaging 9.8 pigs per litter. He makes a pound of gain for 12¢ as compared to 25¢ per lb. by the average German farmer. He makes a pound of gain for 2.75 lb. of feed.

Most European hog farmers visited have developed an effective way to use dunging alleys in swine houses to keep feeding and sleeping pens comparatively clean with minimum use of labor, Dr. Burnside said. The good results are obtained by: enclosing the alley to protect swine from bad weather; walling the alley off from the pens with partitions extending to the ceiling to shut out light and odors from the feeding and resting area; using two doors to the dunging alley and keeping the alley area lighted continually with windows and artificial lights; keeping the resting pens darkened except during feeding periods; having the dunging alley floor lower than the feeding pen so pigs will know when they are in the "bathroom"; and locating waterers in the dunging alley and crowding pigs in the sleeping and feeding pens.

The dunging alley setup is quite adaptable to automatic manure disposal systems, Dr. Burnside pointed out.

**GRADE AND YIELD** — If hog farmers want to stay in business, they must keep informed about advancements in swine production and provide the kind of pork the housewife wants, Ben Smith, livestock extension service manager for the Hunter Packing Co., East St. Louis, told the Southern Illinois University Swine Day audience.

Mr. Smith pointed out that marketing hogs on a grade and yield basis is the only fair way for hog farmers because it rewards the producer of superior quality swine and provides information for improving pork production. Quality must be bred, fed and managed into hogs by the producers, it cannot be "made" by the processors, he said.

**PATHOGEN-FREE SWINE** — The advantages of a specific pathogen-free (disease-free) swine program in providing better hogs, saving more pigs out of a litter, and obtaining faster gains in weight were pointed out to the Southern Illinois University Swine Day audience by Dr. George A. Young, chairman of the University of Nebraska veterinary science department. His address, delivered in Lincoln, Neb., was made by direct-line radio broadcast to the Swine Day audience through the cooperation of the radio-television departments of the University of Nebraska and Southern Illinois University.

The greatest benefit from this recent advancement in swine production is the elimination and prevention of certain growth-retarding diseases, especially atrophic rhinitis and virus pig pneumonia. Dr. Young said a farmer who has been raising hogs for a number of years naturally ex-

## FEED CHANGES

**CAYUGA, N.Y. — Changes in calcium levels and possible future use of hormones in poultry feeds are among current or potential poultry feed changes mentioned in a Beacon Milling Co. bulletin from Dr. J. M. Snyder, director of research.**

**Commenting on calcium, he said: "In the past three years, nutritionists have learned that the calcium level in a layer feed should be two times as high as was once thought optimal. On the other hand, we have found that the level of calcium in a broiler diet should be cut down at least 20% below the level of three years ago. And in 1961, the calcium level in turkey formulas will run as much as 50% lower than it did in 1960."**

**Regarding feed hormones for poultry, Dr. Snyder said: "We at Beacon are vitally interested in this question. This year, at the Beacon Poultry Research Farm, a total of 52 pens of laying hens will undergo hormone feeding tests."**

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**MISSOURI BROILER COUNCIL—Pictured here are the 1961 officers and board members of the Missouri Broiler Council. Front row, left to right, they are Gene Austin, West Plains; Harriett Rimmer, Columbia, treasurer and assistant secretary; Charles Dixon, Monett, president; Harold Biggs, LaPlata, vice president, and Dr. E. M. Funk, Columbia, secretary. Pictured from left to right in the second row are Dick Nold, Montrose; L. J. Hacker, Greenfield; Charles Hailey, Monett; Norman Bell, Memphis; LeRoy Lerbs, Berger, and D. A. "Bud" Wolfe, Kansas City. Board members not pictured include Everett Ament, Springfield; Dave Davidson, Monett; W. R. Thompson, Cabool; Wade Helms, Montrose; Carter Peters, Bonnots Mill, and Al Buescher, Linn.**


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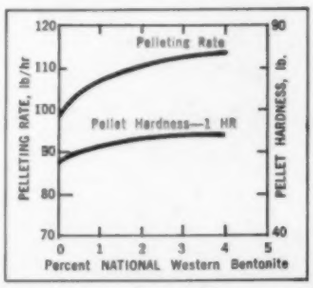
The accompanying chart shows that the pelleting rate at maximum pellet mill capacity increases substantially when Baroid's NATIONAL Western is used as a pelleting aid. Note that both pellet hardness and production rate go up as the percentage of bentonite in the ration increases.




Optimum performance is reached at a 2-3% concentration of NATIONAL Western. This amount gives a 13-15% rise in the pelleting rate and an 11-12% increase in pellet hardness. As little as 1% bentonite improves the pelleting rate nearly 10% and raises pellet hardness 8%.

In tests conducted at Baroid Chemicals' Research Laboratories, NATIONAL Western Bentonite replaced an equivalent quantity of milo in 20% protein cattle feed rations. More detailed information on the use of Baroid's NATIONAL Bentonite in ranch cubes can be obtained by mailing the coupon below.

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pects that from 30 to 40% of the pigs farrowed by his sows will be lost before they reach market weight, and that many of the surviving pigs may need medication or special treatment if they are to become marketable.

Such losses and slow growth arising from diseases and parasites often make economical pork production difficult for the farmer. However, Dr. Young said, exciting progress in finding methods for controlling some of these diseases has been made. One is the specific pathogen-free pig program which Dr. Young originated at the University of Nebraska and which has been farm-tested for several years as well as receiving experimental study at other institutions.

Dr. Young recounted how the S.P.F. pigs are obtained, and outlined the steps for using the program on the farm. It is not a cure-all for the farmers' swine disease problems, he cautioned, but with careful sanitation practices and good management, farmers can maintain a relatively disease-free swine herd for from four to eight years without replacing stock.

**How Pigs Obtained**

The basic S.P.F. pigs are obtained from gilts by performing a hysterectomy operation two to four days before the animals' normal farrowing date, delivering the pigs in a completely sanitary brooder and raising them in complete isolation until they are four weeks old. The sows are slaughtered for market and the pigs are raised on a fortified milk formula. The necessary operation can be performed at veterinary laboratories by arrangement between the farmer and the agency.

At present, there are no short-cuts to make the program easier, Dr. Young said. To have a S.P.F. herd, the farmer must remove all other swine from his farm a month or more before the S.P.F. pigs are to be delivered. The pigs are ready for the farm after four weeks in the brooders. Their quarters at the farm, including the swine lot and all equipment related to their care, must be thoroughly cleaned and disinfected before they arrive.

When S.P.F. pigs reach maturity, normal farrowing procedures are resumed and the resulting pigs can be used to restock farms in the program. It is important that all precautions be observed to avoid contamination of the herd by infection from outside the swine quarters, such as visitors, vehicles, farm equipment and other animals entering the premises where disease free hogs are kept.

A 1959 study of 11 swine herds of Nebraska farms which are in the S.P.F. program showed that an average of 8.5 pigs out of an average farrowing of 9.8 pigs per litter reached five months of age, a survival rate of 85%. By comparison, 70 top-notch Wisconsin swine herds (not S.P.F.) covered in the 1958 Wisconsin Swine Selection Cooperative, had an 80% survival of pigs to five months. The average daily gain of the S.P.F. swine from 56 days to five months was 1.62 lb. as compared to 1.36 for the Wisconsin herds.

## 38 Managers Attend Iowa Short Course

DES MOINES—A total of 38 attended the fifth annual short course for assistant managers of elevator and farm supply businesses held in Ames. The subjects taught and the instructors in charge included: "How to Manage Credit," John M. "Mel" Shanda, Home State Bank, Jefferson; "How to Use Records in Your Business," J. T. Scott, Iowa State University, Ames; "How to Merchandise Effectively," Dick Phillips, ISU; "How to Develop Good Employee Relations in Your Business," Daryl Hobbs, ISU; "How to Organize for Effective Management," Graham Wells, The Quaker Oats Co., Ft. Dodge; "How to Get and Keep Customers," Bob Skinner, Western Grain & Feed Assn. of Iowa, Des Moines.

The evening classes consisted of a panel discussion on "What I Expect of My Assistant Manager," with Bob Deppe, Froning & Deppe Elevator, Ames; Bob Johansen, Jewell Cooperative Elevator, Jewell; Carl Nolin, Farmers Co-op. Elevator Co., Ralston, and Bud Swanson, Swanson Elevator Co., New Sharon, as panelists.

A flannelgraph presentation of "You and Your Community Relations of Your Business," was made by George Beal and Joe Bolin of ISU. "Hedging and Future Markets" was discussed by Warren Winslow, Merrill Lynch, Pierce, Fenner & Smith, Inc., Des Moines.

This short course was co-sponsored by Iowa State University, Farmers Grain Dealers Assn. and Western Grain & Feed Assn. of Iowa in cooperation with other elevator and farm supply trade groups.

## APPARATUS SIMPLIFIES METABOLISM STUDIES

**Development of an apparatus that simplifies and facilitates metabolism and digestion studies in cattle has been reported by Dr. Verle R. Bohman, chairman, department of animal husbandry, Max C. Fleischmann College of Agriculture, University of Nevada.**

**The apparatus collects the total excreta of animals used in metabolism and digestion studies at the agricultural experiment station, the announcement said. It is mobile and easy to manipulate and has separate compartments for the liquid and solid excreta. Ease of adaptation to specific uses makes the apparatus suitable for feedlot, pasture and range studies, Dr. Bohman continued.**

**The apparatus has been used successfully at the University of Nevada in a variety of ways, he said. These include digestion and balance studies, molybdenum toxicity studies, improved pasture studies and range nutrition studies.**

**The balance studies were made to determine what percentage of elements consumed by cattle were retained in the body by subtracting the amount excreted from the amount consumed. So far these studies have involved nitrogen, phosphorus, molybdenum, copper and sulphur.**

**The equipment is simple and relatively inexpensive, he said. It is built of vinyl coated nylon and a truck tire inner tube.**

## Joseph Boorster Retires From Poultry Firm

VINELAND, N.J.—The retirement of Joseph Boorster, until recently sales and advertising director of Vineland Poultry Laboratories was announced by Dr. Tevis M. Goldhaft, general manager.

Joseph Boorster

Mr. Boorster devoted nearly a half century to agricultural sales advertising—with some 25 of those years spent in directing these activities at the Vineland firm's headquarters. He was the designer of the firm's winged trademark. He also built and supervised Vineland's international network of distributors and dealers.

"Vineland Poultry Laboratories will always be indebted to Joe Boorster for the part he has played in building our sales and advertising programs," commented Dr. Goldhaft.

## Tranquilizer Doesn't Stop Weight Losses In Weanling Calves

BELLE GLADE, FLA.—A tranquilizer was not effective in stopping weight losses among beef calves being weaned in tests at the Everglades Experiment Station of the University of Florida, according to Dr. C. E. Haines, assistant animal husbandman.

Since calves are unhappy and restless at weaning time and waste considerable time and energy walking the fence line and bawling instead of grazing, the Florida researcher thought that a tranquilizer might eliminate the weight loss usually experienced. But Dr. Haines didn't find this to be true.

His first trial contained calves of Angus, Hereford and Brahman breeding; his second trial consisted of Brahman crossbreds. He used 0.4 and 0.8 mg. of a tranquilizer (reserpine) per hundred pounds body weight, compared with no tranquilizer. The materials were injected intramuscularly the day after weaning.

After seven days on Roselawn St. Augustine grass pasture, with a small amount of concentrate feed daily, the calves were again weighed.

In the first trial the calves were weighed the day they were weaned. Calves in the first trial lost 5.3% of their body weight with no tranquilizer, 3.7% with the 0.4 milligram and 4.6% with the 0.8 milligram. Dr. Haines says he thinks that possibly the larger dose kept them from grazing and feeding as much as the ones on the smaller dose.

In the second trial, with the calves weighed the day after weaning, average weights of all three groups changed not more than 1% during the seven days following injection of the tranquilizer, the report states.

"These small differences indicate that tranquilizers do not significantly affect the loss of weight among calves being weaned," says Dr. Haines.

## Pelleted Ration Usage Depends on Operation

FT. COLLINS, COLO. — Feeding pelleted rations to dairy cattle has definite advantages in reducing handling and storage problems, but the economics of feeding pellets depends on the individual dairy operation, Raymond Hinders, assistant professor of animal science at Colorado State University, told Dairy Day visitors at Colorado State recently.

He said that feeding a strictly pelleted ration probably will not pay and the ultimate answer is for each dairyman to arrive at the combination of pellets and roughage which is right for him.

Mr. Hinders pointed out that if a strictly pelleted ration is fed, butterfat content of milk will drop and that cows so fed appear to be discontented. He expressed hope that additional research in pelleting processes and in the use of pellets may minimize such disadvantages.


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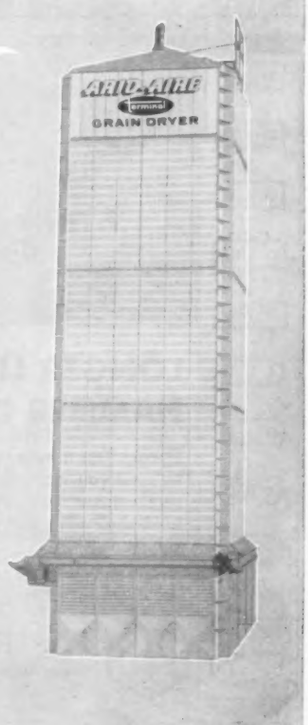


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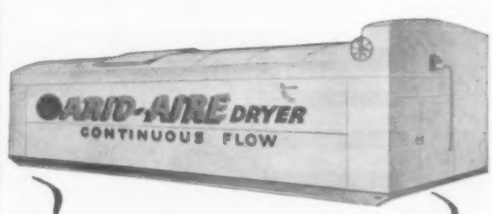


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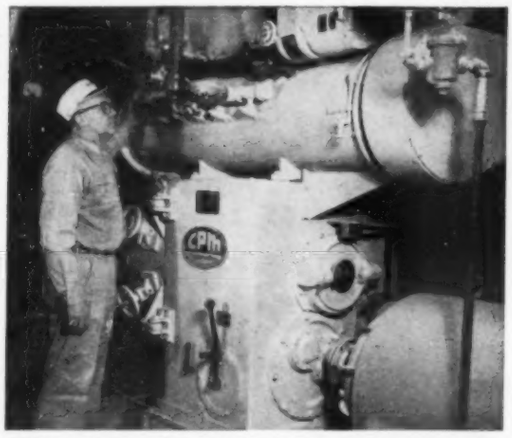

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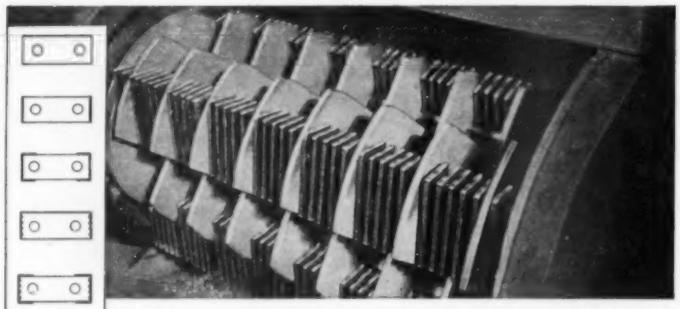

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# Animal Nutrition Main Topic at South Dakota Beef Cattle Event

BROOKINGS, S.D.—Topics for the fifth annual beef cattle field day held at South Dakota State College here covered several aspects of feeding.

Topics covered by speakers at the South Dakota event included alfalfa haylage, diallyldiethylstilbestrol, high concentrate rations, a study on silage losses in concrete stave silos, a comparison of sorghum silage with corn silage, feeding high levels of antibiotics, control of cattle grubs and cobalt requirements of beef cattle on pasture.

**ALFALFA HAYLAGE** — Alfalfa haylage showed up well for the second year in experimental feeding trials at South Dakota State College. During 1960, haylage, which is silage with a low moisture content, was fed to eight lots of yearling steers for 101 days. The 80 animals averaged 1.99 lb. per day gain which compares well with the 2.18 lb. per day gain put on by steers in 1959 feeding trials.

According to Dr. L. B. Embry, experiment station nutritionist, who talked to South Dakota beef producers attending the annual beef cattle field day program, this is a good rate of gain for an all-forage feeding program.

Steers implanted with 24 mg. of diethylstilbestrol (DES) gained an average of 14% more on the haylage than non-implanted steers did.

The steers utilized an average of 955 lb. of dry matter for each 100 lb. of gain with the consumption of dry matter ranging from 822 to 1,068 lb. per 100 lb. gain among the eight lots. In terms of feed efficiency, Dr. Embry stated that each ton of dry matter produced about 210 lb. of gain. "When fed in this manner, heavy yielding alfalfa exhibits a high potential in pounds of beef it can produce per acre," he said.

**DIALLYLDIETHYLSTILBESTROL**—The compound diallyldiethylstilbestrol (DAS), which produces low estrogenic activity, was not very effective in promoting feedlot gains in a recent South Dakota State College experiment.

In reporting on the study which tested dynafac and DAS, Dr. L. B. Embry told the beef cattle field day audience that dynafac showed a 5.9% increase in rate of gain plus a 3.4% advantage in feed efficiency, but DAS fed at three different levels did not produce consistent results.

Dynafac has an antibacterial property and works in the digestive tract of the beef animal. DAS is a compound related to stilbestrol but it has a much lower effect on estrogenic activity. Stilbestrol has proved to be a very effective growth stimulant in other experiments.

Bloat symptoms have also been studied on animals getting dynafac. Dr. Embry stated that losses from feedlot bloat have been watched in this and other experiments where dynafac has been used. Dynafac has been fed to 362 cattle on various experiments here and 284 animals were fed similar rations without dynafac. There have been no losses from bloat or other digestive disturbances among animals fed dynafac; however, six animals, or 2.1% of the animals in lots not on dynafac, have been lost because of bloat, Dr. Embry reported.

**HIGH CONCENTRATE RATIONS**—High concentrate rations containing from 10.5 to 11% protein coupled with a stilbestrol provided the fastest and most efficient gains for beef cattle during the most recent study conducted on beef cattle protein requirements at South Dakota State College.

According to Dr. L. B. Embry, an experiment was conducted to test four different levels of protein for fattening yearling steers using a ration composed of 80% concentrates and 20% roughage. Stilbestrol, diallyldiethylstilbestrol (DAS) and dynafac were used with each protein level. The study was set up to determine the effects these additives might have on the amount of protein needed in the fattening ration.

Protein levels ranged from 9.6% to 12.9%. One group received 10 mg. of stilbestrol, another received 15 mg. of DAS, another 2 gm. of dynafac and the fourth received 2 gm. of dynafac plus 10 mg. of stilbestrol.

Stilbestrol increased gain and feed efficiency more than other additives, but none of the additives had any effect on the amount of protein needed. The rations containing 10.7% total protein provided greater returns per head than did rations containing either less or more protein. None of the rations appeared to have any effect on carcass grade, degree of marbling or conformation but data was not yet complete on this part of the study.

Daily gains varied from 2.25 lb. per day for the control group fed a ration with 9.6% protein but no additive to 2.9 lb. per day for the lot getting 10.7% protein plus stilbestrol. The average gain for all lots getting this level of protein was about 5.4% higher than those fed at the 9.6% level. Stilbestrol gave an average of 12.9% increase in gains over control lots, DAS 4.3%, but dynafac did not stimulate gains of these cattle when fed with the high-grain ration plus brome-grass roughage.

Dr. Embry said the steers on 9.6% protein required the most feed per 100 lb. of gain. When the protein was increased to 10.7%, efficiency improved about 5.1%. Rations containing higher amounts of protein were not quite as efficient and more costly.

**CONCRETE STAVE SILOS**—Dry matter losses for silage stored in concrete stave silos were surprisingly low for both high-moisture silage and low-moisture silage (haylage) in a South Dakota State College experiment conducted last summer.

According to Dr. Embry, only 4.2% of the original amount of low-moisture forage was lost and high-moisture silage losses were only 6.3% on a test made in conjunction with other studies comparing haylage and silage.

He told the cattle field day audience that the study reveals that ce-

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**FIELD DAY SPEAKER—Dr. L. B. Embry, experiment station nutritionist at South Dakota State College, is pictured in foreground of the picture as he spoke to a cattle feeder audience at South Dakota's annual beef cattle field day. He said that high concentrate rations containing 10.5 to 11% protein coupled with stilbestrol provided the fastest and most efficient gains for beef cattle in recent tests at South Dakota.**

ment structures might be used for storing forage as low as 40% moisture for short periods at least. The quality held up well when feeding began immediately after the silo was filled and continued for the next 78 days.

Longer periods of storage were not tested, but Dr. Embry said results of digestion trials indicate that the low-moisture forage from the gas-tight silo was more digestible than either high-moisture or low-moisture forage stored in concrete stave silos longer than 60 days. "These differences could be due to several factors so more work will be required to determine the importance of the storage structure," he said.

The silos used in the study were only two years old, did not have any cracks in the walls, and doors and the top were sealed with plastic. Gas-tight silos usually recover at least 98% of the dry matter.

**ANTIBIOTICS** — How do beef calves react to diets that contain high levels of antibiotics? South Dakota State College personnel doing beef research decided to find out and placed three groups of feeder calves on a diet that included 300 mg. of Aureomycin, nearly four times as much as is normally recommended for continuous feeding.

Generally, the experiment revealed that antibiotics improved rate of gain, amount of feed consumed and appeared to act to control low levels of infection, according to Dick Luther, experiment station animal husbandman.

In reporting on the experiment at the annual South Dakota State College Beef Field Day, Mr. Luther said 237 calves were used in the study. The antibiotic was fed along with the protein supplement and prairie hay was full-fed. Calves were on test at Eureka, Cottonwood and Highmore substations.

At both Eureka and Cottonwood the calves receiving the 300 mg. of Aureomycin made better gains than the group that received no antibiotic. Mr. Luther observed that steers in dry lot, steers on pasture and those raised at the Cottonwood station responded to the antibiotic supplement while those fed antibiotic at Highmore did equally as well as the control group.

In a second experiment at Brookings, 291 head of Hereford feeders were divided into three groups and fed two antibacterial compounds in wintering rations. Each group was split four ways. Some received no antibiotic, some got 250 mg. of Aureomycin, a third lot was given 4 gm. of dynafac and a fourth group received both treatments. The trials lasted about five weeks.

Mr. Luther said the groups getting Aureomycin gained faster than controls but those getting dynafac only varied somewhat in response. Feed consumption was good in all lots getting antibiotics but lower in the one getting dynafac alone.

A third group of calves showed signs of shipping fever soon after trials began. Steers in the Aureomycin and dynafac lots made faster gains and ate more feed than the control group. When both materials were fed it appeared to have a depressing effect on gains and feed consumption. "Although the feeding of antibiotics did not reduce the number of cattle with shipping fever symptoms, the improvement in weight gains would indicate a reduction in the level of infection," he said.

**CATTLE GRUBS** — South Dakota State College research personnel have found what appears to be a very practical method for controlling cattle grubs. In reporting on the research during the annual beef field day program, Dr. William Rogoff, entomology-zoology department, and Dr. P. H. Kohler of the animal husbandry department said that the most impressive results were obtained when a cupful of an experimental chemical called Ruelene was simply poured along the back line of each animal. The same technique appears to be just as effective for horn fly control.

In the grub experiment, the pour-on treatment was compared with the high pressure spray technique, using the same amount of material per animal. The pour-on treatment showed 99% control of cattle grubs. The spray treatment controlled only 80% of the grubs. More than 25 grubs were found on each of the untreated calves.

The technique was also tested in western South Dakota where grubs are a severe livestock problem. Tests at the Antelope and Cottonwood range stations showed the pour-on technique with Ruelene to be from 96 to 98% effective.

According to Dr. Rogoff, feeding the material along with a mineral mixture also holds some promise. The biggest drawback is the wide variation in mineral consumption between individual calves. This is a disadvantage when attempting to provide a uniform dosage of the chemical.

Grubs were controlled, however, when 8 to 24 gm. of active ingredient were mixed with each pound of mineral mixture fed to calves.

Dr. Rogoff said there is no evidence to indicate that the chemical harmed the aninmal and no skin irritation


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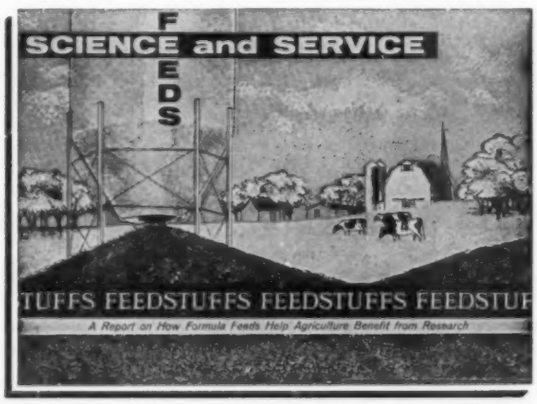
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**ADA RESEARCH COUNCIL—Members of the American Dehydrators Assn. research council are pictured here. The photo was taken at ADA's recent convention in New Orleans. Seated, left to right: Roy Elrod, Archer-Daniels-Midland Co., Minneapolis; Dr. U. S. Garrigus, University of Illinois, Urbana; Dr. W. M. Beeson, Purdue University, Lafayette; Dr. H. R. Bird, University of Wisconsin, Madison; Herbert C. Schaefer, Ralston Purina Co., St. Louis, and standing, left to right: Dr. George O. Kohler, Agricultural Research Service, U.S. Department of Agriculture, Albany, Cal.; Dr. L. E. Hanson, University of Minnesota, St. Paul; Dr. Francis E. Bird, Eastern States Farmers Exchange, West Springfield, Mass.; Dr. Wm. R. Kehr, USDA, University of Nebraska, Lincoln; Dr. R. O. Nesheim, The Quaker Oats Co., Barrington, Ill.; Dr. Merle Brinegar, Allied Mills, Inc., Libertyville, Ill., and Dr. Walter A. Glista, Wirthmore Feeds, Inc., Waltham, Mass. Members of the council not present were Dr. Frank M. Crane Land O'Lakes Creameries, Inc., Minneapolis, and Dr. S. J. Slinger, Ontario Agricultural College, Guelph, Ontario.**

was encountered in field tests. However, it has not yet been cleared for use by the U. S. Food and Drug Administration.

The chemical is absorbed by the animal and distributed through the blood stream.

**COBALT FOR BEEF** — Livestock nutritionists at South Dakota State College are trying to find out if beef animals on native prairie pastures need additional cobalt in their diet, and if they need it, what is the best way to give it to them.

Dr. Embry told the beef cattle field day audience that previous experiments conducted at the North Central Substation at Eureka (in north central South Dakota), indicated that there might be some advantage in feeding this trace mineral, either as a bullet or in the salt.

Tests were run on 40 steers. Part of the group was fed plain salt plus a cobalt bullet. The other half was fed a trace mineralized salt plus a cobalt bullet. And half of the beef animals had been implanted with 24 mg. of diethylstilbestrol (DES).

Dr. Embry said the trace mineralized salt appeared to take care of cobalt needs just as well as the bullet and there was no additional benefits when both the bullet and the trace mineralized salt were used together.

However, it is not yet known whether cattle on native prairie pastures actually need the extra cobalt at all. The results of this part of the experiment are inconclusive. "Further study with larger groups of cattle will be needed to determine this," he said.

**SILAGE COMPARISON** — Silage made from corn is being compared with silage made from forage sorghum in feeding experiments at South Dakota State College. In commenting on first-year feeding trials, William McCone, associate professor in animal husbandry, told beef producers attending the annual beef field day that there was little difference in rate of gain among steers getting the two types of silage.

The sorghum-fed steers ate more silage per day but the sorghum silage was about 18% higher in moisture than corn. On a dry matter basis, the steers on sorghum ate about a pound less per day than those on corn silage.

A total of 40 steers were used in the feeding trial. At market time 39 graded good in carcass and one graded standard. No differences in carcass grade were noticed. The steers fed sorghum silage dressed out about 2% less than those fed corn silage.

The silage was cut in 1959 when drouth conditions held down forage yields here. The corn and sorghum fields were side by side. The corn averaged 8 tons of silage per acre while the forage sorghum produced 12. One acre of corn silage plus 622 lb. of linseed meal produced 598 lb. of beef while an acre of the sorghum silage plus 1,020 lb. of linseed meal produced 1,020 lb. of beef. "While this shows a much better beef yield per acre for sorghum than for corn, it should be remembered that 1959 was an extremely poor corn silage year in this area," he said.

Feeding trials comparing corn and forage sorghum silage are being continued to find out if there are differences in feeding value.

## Benefits of Merging Canadian Firms Told

TORONTO — Better utilization of production facilities and ability to minimize transportation costs by producing in the closest plant to the point of sale are benefits expected to accrue from the merger of two Canadian feed firms recently announced.

Stockholders of both firms have approved the merger of Maple Leaf Milling Co., Ltd., and Toronto Elevators, Ltd. (Feedstuffs, March 11, page 8). The new firm is to be known as Maple Leaf Mills, Ltd., and is expected to be the largest feed producer in Canada.

Toronto Elevators feed division had been concentrating on markets in eastern Canada and Maple Leaf was selling coast to coast, the announcement stated.

Toronto Elevators has five feed mills in Ontario with a combined capacity of 700 tons per day. The new Prescott mill commenced operation just over a year ago and is considered a model of modern and efficient operation.

Maple Leaf owns five mills, leases another and has a new plant under construction at Ste. Foye, Quebec, according to the announcement. Current daily capacity is 780 tons.

## Office Expansion Told

MINNEAPOLIS — International Milling Co., Minneapolis, has expanded its office facilities here by leasing 3,000 sq. ft. on the third floor of the Longyear building at Eighth St. and Marquette.

International now occupies the entire 12th floor of the Investors Building which serves as general headquarters for the company.

The newly-acquired office space in the Longyear Building is being utilized by the head offices of the firm's Supersweet Feeds division which has 10 formula feed plants in Minnesota, Iowa, Nebraska, Kansas, Illinois and Wisconsin.

## Normal Broiler House Shows High Rating In Tennessee Tests

KNOXVILLE, TENN. — In seven trials comparing the broiler growing efficiency of windowless, solar, and conventional broiler houses at the University of Tennessee experiment station, the conventional broiler house showed up best.

The windowless house came out second in rate of broiler growth and the solar house third. But efficiency of feed utilization, which was also measured, was about the same for all three houses.

The first five trials were nine weeks long and the last two eight weeks. During the last three trials, the solar house was "blacked-out" by covering the inside of the windows. Natural light was eliminated, but solar or sun heat could still warm the inside of the broiler house.

During all trials, the conventional house temperature pattern paralleled the outside temperatures. The solar house temperature tended to parallel the outside temperatures during the first four trials, but gave a more constant temperature pattern during the last three trials when the windows were blacked out.

Denver O. Baxter, agricultural engineer, and Dr. H. V. Shirley, poultry geneticist, both with the Tennessee Agricultural Experiment Station, offered this conclusion:

"Based upon figures taken during these experiments, it's doubtful if the extra cost of either a solar or windowless house is justified. However, under other situations or systems of management, either the solar or windowless broiler house may pay."

## Arkansas Egg Plant Begins Operations

NORTH LITTLE ROCK, ARK. — The new Adkins-Phelps Egg Plant, North Little Rock, was officially opened at open house ceremonies here recently.

Although the plant is operating only at half capacity, it is handling some 500,000 eggs weekly. The facility is equipped to handle 1,000,000 eggs a week, and officials say an expansion is planned to further enlarge the operation.

Adkins-Phelps sells eggs to more than 40 food stores and about 100 restaurants in the greater Little Rock area. The egg plant is connected with the Adkins-Phelps Feed Co. here.

The firm has contracts with producers in the area to supply the eggs.

Company officials, predicting a steady increase in the demand for eggs in the Little Rock and North Little Rock area, hope to expand the operation to 5,000,000 eggs weekly within a few years. A steady annual increase in production is anticipated.

The firm has a total of 15 employees.

### MILL TO REOPEN

WINTERS, TEXAS—The bankrupt C. L. Green Milling Co., which was recently sold to Ray Alderman of Baird, will re reopened under the name of Alderman-Cave Milling & Grain Co. Mr. Alderman, who bought the firm with his father-in-law, Charles Cave, for $51,500, will be manager and operate the business as a grain elevator, feed mill and general farm supply store. Instead of working with numerous west Texas dealers, as the former company did, the new owners will do custom feed grinding for the feeders of this area.


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## Poultry Population in Canada Little Changed

OTTAWA—The Dominion Bureau of Statistics has estimated that there were almost 50.4 million birds on farms Dec. 1, 1960. Compared to 51.0 million birds at the same time one year ago, the present total shows only about 1% decrease.

By kinds, turkeys were down 9% compared to the previous year at Dec. 1; geese were down 6%; hens and chickens, and ducks were unchanged.

There seemed to be plenty of interest in pigs across the country during February. The trend to increased production first became evident late last summer and since then has been gathering momentum. The demand for breeding stock is keen.


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# Feed Financing Is Growing Up

**Former Feed Man, Now a Banker, Has These Words Of Counsel:**

**"Your expansion should be built along the lines of improving and intensifying with your good producers and not attempting to see how many new producers you can get into business."**

**By Maurice Johnson**
**First National Bank**
**Kansas City**

In banking, unlike the feed business, risks that come to us have gone through a filter. Most of the unbankable loans either in the feed business or in other business are stopped by thinking businessmen before they get to the bank. Borrowers carefully consider their problem and change their viewpoint from that of a feed man trying to get business to a banker trying to loan money before becoming serious about borrowing on a project.

I think they know that bankers must, in the interest of their depositors and stockholders look seriously only at what we might call mature credits. In the feed industry, during the chaotic period just passed, many of the credits must be considered as having been immature and many of them unbankable.

When you look back at the mortality among the backyard poultry raisers and the great shift in dairy population, it is rather obvious that the reluctance of money-lending institutions to get into these fields was well founded. On the other hand, money and talent is flowing to competitors of these fields, namely the large commercial egg producer, the large integrated broiler operator, the large scientifically handled dairy herds and to the intelligent feedlot operator.

### Some Questions

To go back a moment, how many of you as a banker would loan money to a poultryman who is changing from a backyard operation to the production of eggs for 2,000 hens if his sole livelihood depended upon success in that field?

How many of you would want to take a chance, as a banker, on a man who had decided because of something he read to get into the turkey business in a major way?

Which one of you would stand up and say he would finance a person who had decided to go into the cow pool business just because he had read about the success of a cow pool?

Who here could predict success for a person who is going into a 10,000-head feedlot only from books or the fact that he was starting with 50 head?

Who here can be sure that after reading how to produce pork at 8½¢ lb. you could go out and do it and convince a money-lending institution that you would reach that goal?

### The Major Consideration

I am trying to say that all the banking rules or all the rules that we use in making loans bow down before the overriding and most important consideration, namely management. Unless people have proven by their past management that they can excel in these particular fields and do what they cannot pay for today, then the banker must be extremely reluctant to go ahead into this kind of a risk regardless of the other circumstances that may cause one to think it will work.

It is nearly as hazardous to assume that a man who is successful in broilers can produce eggs efficiently, or that a dairyman can go into the beef business, or that one who has been successful in turkeys can get into an integrated hog set-up. Each one requires different skills and a different background to assure success.

The same viewpoint would cause many of us to hesitate in loaning money to a feed dealer. When you look at the mortality among feed dealers over the last few years it must be agreed that banks could not have freely loaned money to this field without suffering great casualties.

Who also among you would finance a produce dealer who had decided to put in a feed mixer? He might be a good cream buyer, a good grader of eggs, a pleasant person who is trying to salvage his business, but can we be sure that his management would cause him to mix, schedule, deliver and supervise a feed mixing operation intelligently and profitably?

On the other hand, with maturity in these fields, with skills developed to the point where they can be depended upon, with background in growing, cost reduction, management and supervision, it is not at all difficult for a banker to become interested in loaning money to some of the projects that now have grown up and need money for expansion.

### Fields Defined

First, let us define the fields that we are talking about. We are considering here today the business of loaning money to feed dealers and feed manufacturers who are engaged in either selling or producing feed for the production of broilers, eggs, turkeys, swine, cattle, dairy cattle or dairy operations.

When you take these one by one, you see evidences of uncertainty, mismanagement, poor supervision, high costs, serious mortality and wishful practices. Unless you are sure that supervision, management and planning of the operator are eliminating most of these problems, you would not as a banker be able to compare this field favorably with petroleum, appliances, building or grain, some of the other great avenues toward which money can flow.

At one time, not long ago, rural credit for feeding was a relatively safe operation. Farmers were not then competing with specialists. They were, and in many cases still are, competing with others saddled with the same inefficiencies, and who have the same limits of volume and marketing. Today, the credit analyst must look at the feeder's best competitor. If the farmer is out of line in efficiency, the credit man often provides capital to the competitor, not the farmer.

Heavy losses in some credit extensions the last few years did give some financial houses reason to take a deep breath when looking at chicken credit. But there are many chicken "complexes" that now stand all the tests of good credit extension — solid on-the-job management, low purchasing costs, satisfactory equity, good round-the-clock marketing.

One of the weaknesses of credit extension for large scale feeding is the rather loose research activity in the field of management. Good breeding, good feeding and smart marketing are all for naught, if fundamentally sound management practices cannot be determined and properly taught to the feeder.

Every banker knows that, generally speaking, your end products have a built-in ready market. You may have to seek a little to find some of them, but if you produce uniformly good broilers, good milk or satisfactory beef, you are bound to sell your products and usually for a premium over the so-called general price.

Therefore, using some of the figures we understand are "par" in the business of producing your end products, we know if you can hit the low side of these figures, you can in most years be profitable. We know if you can produce eggs for under 30¢, you may be a good risk. If you are over 30¢, could you expect us to finance you against those who could do it for less?

We know that if you can produce beef including all charges for 18¢ to 20¢, you are in the ball park. If you are over that in feeding young cattle, you will be eliminated while others are making a profit.

We also know that if your labor cost in your feed mill is much over one man hour per ton, you will have to have some unusual market considerations in your operation to make you a safe risk over many years.

### Management Requirements

You must have management that can show us: Positive cost control and, as a result, low production cost; comprehensive marketing control of a sizeable volume of product; intense and consistent local supervision; general over-all business understanding of what you are doing; depth in your ownership and management that will keep your business from suffering if one person leaves or dies; an over-all objective that will keep you from being out-maneuvered by competitive influence.

Then you will be in a position where, before very long, you will have access to and be eligible for comprehensive financing. You and your growers will be in a position to get comprehensive financing of the type that is enjoyed by many mature businesses. I think this is here, or at least it's close. Many mature organizations now who are in the business of production, processing and marketing are showing statements and management capabilities that cannot help but be impressive.

### A Word of Counsel

If I have one word of counsel in your miscellaneous financing of farm production, it would be that your expansion should be built along the lines of improving and intensifying with your good producers and not attempting to go out and see how many new producers you can get into the business.

Say you have 50 turkey raisers of whom 25 are excellent. How much more satisfactory your experience would be to build up the good 25 and not go out for 25 more of whom perhaps 15 would be failures.

I am sure you have in this respect the same viewpoint as the banking fraternity, namely encourage, build up and develop those who have shown good management capabilities, and beware of encouraging amateurs to

EDITOR'S NOTE: *The author of this article, which is from an address presented by Mr. Johnson at the Feb. 19-21 convention of the Midwest Feed Manufacturers Assn. in Kansas City, is vice president, First National Bank, Kansas City. He is a past president of the association and was with the Professional Feeds division of Spencer Kellogg & Sons, Inc., Kansas City, before becoming a banker.*

get in and lose money in the field where only professionals can survive.

I have not said anything that I have not learned from those of you who are here listening. These are common, fundamental facts that many of you know better than I. Being in the unique position I hold in banking after many years in the feed business, you perhaps feel that I can bring to you some striking and illuminating information that will completely change your business. This I am sure is not so, nor will I be able to do this a year from today.

The business you're in is strictly for the rugged, direct, problem-meeting type of person who will keep chopping away at his problems one after the other until his costs are reduced, his production is made consistent and economical, and his operation, therefore, bankable.

## G.L.F. Reports New Medicated Feeds

ITHACA, N.Y.—A new high level antibiotic feed and a new coccidiostat have been announced by Stanley B. Smith, director of poultry nutrition for Cooperative G.L.F. Exchange.

A G.L.F. publication announces a feed called "Adjustor M-20," with 1,000 gm. of antibiotic per ton, designed to permit treatment of laying or growing birds with any antibiotic level, regardless of the regular feeding program.

"Each 10% of the birds' daily ration fed as Adjustor M-20 equals 100 gm. of antibiotic per ton," the announcement explains. "For instance, if birds are given 20% of their daily intake in Adjustor M-20, they are getting a 200-gram-per-ton dosage; 35% of the total daily feed equals 350 gm. per ton.

"Recommendation is to feed the Adjustor M-20 first thing in the morning.

"Since this is a highly concentrated form, the blood levels build up rapidly to a much higher point than they would with a feed like G.L.F. Defender. Research work has shown this to work extremely well in treating diseases."

Mr. Smith also announced that the coccidiostat zoalene is now being used in broiler feeds and replacement pullet feeds. He cited weight gain and feed conversion results in reporting on its use.

## Bemis Earnings, Net Near Record Levels

ST. LOUIS — Both earnings per share and net income for 1960 operations of Bemis Bro. Bag Co. were the second highest of the past decade.

That information was included in the annual report of the firm which had 1960 sales of $131,651,312, slightly higher than a year earlier. Earnings per share of common stock were $4.03 as compared with $4.24 per share in 1959. Both the earnings of $4.03 per share and the net income of $2,869,328 were the second highest of the last 10 years.

It was also reported that the company spent more than $2,750,000 in plant expansion and modernization during the year 1960. Expenditures in this line were both to expand output and further manufacturing efficiency and cost reduction. Emphasis was on installing high speed paper bag equipment and new printing presses and modifications of existing equipment.

In their annual report, F. G. Bemis, chairman, and Judson Bemis, president, described 1960 as "a year of progress in many ways."

"The sales of our subsidiary operations were up," they said, "and contributed moderately to earnings. We made substantial advances in plant modernization and in our manufacturing efficiency and cost reduction programs. A new bag plant went into production in the San Francisco Bay area in August and a new Tekmold Products plant in Muskegon, Mich., began operations a few weeks ago. Projects involving expanded facilities and new equipment were completed at a number of present plant locations."

## Sales Agent Named

NEW YORK—Fallek Products Co., Inc., New York chemical sales organization, has been appointed sales agent for Tennant Chemical Division of Newton, N.J. Among the Tennant products are certain organic iodides. The Fallek company recently moved to 4 W. 58th St., New York 19, N.Y.

### FEEDLOT EXPANSION

LOS BANOS, CAL.—The Wolfsen Feed Lots near Los Banos are being greatly expanded this year with the addition of new pens and other equipment.

# Number of Layers Mar. 1 Off 3%

WASHINGTON — The number of layers March 1 totaled 295,339,000, a decrease of 3% from a year earlier, according to a report from the U.S. Department of Agriculture.

Decreases from last year were: 7% in the east north central and west north central, 5% in the south central and 4% in the north Atlantic states. These declines more than offset increases of 7% in the West and 1% in the south Atlantic regions.

The rate of lay March 1 was 60.8 eggs per 100 layers compared with 58.9 a year earlier. All regions were above last year except for the north Atlantic which was down 3%, USDA reported. Increases were: 8% in the south central, 6% in the west north central, 3% in the south Atlantic, 2% in the east north central and 1% in the western region.

On production, USDA reported that the nation's farm flocks laid 4,856,000,000 eggs in February compared with 5,155,000,000 in February of last year, a decrease of 6%. USDA said that the decrease in February egg production was partially due to the fact that February last year (leap year) had 29 days.

The rate of egg production in February was 16.34 eggs per layer, compared with the February, 1960, rate of 16.67 and the 1950-59 average of 15.0. USDA pointed out that one less day in February this year was responsible for the reduction in the monthly rate of lay. On the basis of just 28 days, February this year would be about 2% above February of 1960, USDA commented.

**TABLE 1. Hens and Pullets of Laying Age and Eggs Laid Per 100 Layers on Farms March 1**

| Year | North Atlantic | E. North Central | W. North Central | South Atlantic | South Central | Western | United States |
|---|---|---|---|---|---|---|---|
| **Hens and Pullets of Laying Age on Farms (thousands)** | | | | | | | |
| 1950-59 (average) | 55,251 | 63,833 | 92,567 | 33,383 | 51,742 | 36,220 | 332,996 |
| 1960 | 48,918 | 52,815 | 77,039 | 39,665 | 49,070 | 38,437 | 305,944 |
| 1961 | 46,827 | 49,119 | 71,741 | 40,079 | 46,463 | 41,110 | 295,339 |
| **Eggs Laid Per 100 Layers on Farms (number)** | | | | | | | |
| 1950-59 (average) | 56.3 | 56.2 | 58.1 | 54.7 | 52.3 | 58.2 | 56.2 |
| 1960 | 59.2 | 60.1 | 60.0 | 58.5 | 53.5 | 61.8 | 58.9 |
| 1961 | 57.6 | 61.1 | 63.9 | 60.5 | 57.6 | 62.7 | 60.8 |

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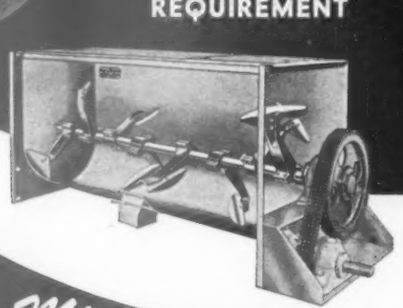

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## CALENDAR FOR 1961-62

**MARCH**

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**NOVEMBER**

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**JANUARY**

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**FEBRUARY**

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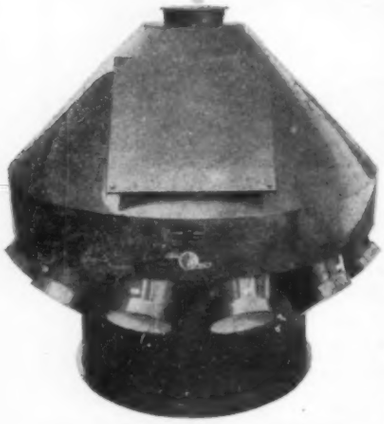

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# Convention Calendar

## New Listings

**For the convenience of readers who scan the Convention Calendar regularly for new listings, those added to the column in the current week appear separately from ones which have been entered previously. The following week they will be moved to their proper slot where they will remain until the event is held.**

**April 23-28—School of Executive Development in Business Management, Unit I;** Continuing Education Center, University of Georgia, Athens; sec., Harold E. Ford, Southeastern Poultry & Egg Assn., 235 E. Ponce de Leon Ave., Decatur, Ga.

**April 23-28—Grain Elevator & Processing Superintendents;** Baker Hotel, Hutchinson, Kansas; sec., Dean M. Clark, 1115 Board of Trade, Chicago 4, Ill.

**April 28—Beef Cattle Day;** Washington State University, Pullman; Dr. Irwin Dyer, Animal Science Dept.

**May 22-23—Poultry Industry Sales Clinic;** Continuing Education Center, University of Georgia, Athens; sec., Southeastern Poultry & Egg Assn., Harold E. Ford, 235 E. Ponce de Leon Ave., Decatur, Ga.

**June 15-16—Pacific Northwest Grain Dealers Assn.;** Davenport Hotel, Spokane, Wash.; sec., Merrill Sather, 418 Peyton Bldg., Spokane 1.

**Aug. 3-4—National Soybean Processors Assn.;** Edgewater Beach Hotel, Chicago, Ill.; sec., Wm. K. Self, 3818 Board of Trade Bldg., Chicago 4, Ill.

**Aug. 7-9—Southeastern Management Roundtable;** Continuing Education Center, University of Georgia, Athens; sec., Southeastern Poultry & Egg Assn., Harold E. Ford, 235 E. Ponce De Leon Ave., Decatur, Ga.

**Aug. 13-18—School of Executive Development in Business Management, Unit II;** Continuing Education Center, University of Georgia, Athens; sec., Southeastern Poultry & Egg Assn., Harold E. Ford, 235 E. Ponce de Leon Ave., Decatur, Ga.

**Aug. 21-22—Kentucky Feed & Grain Association;** Brown-Suburban Hotel, Louisville, Ky.; sec., Jack Weber, Box 425, Lexington.

**Sept. 24-26—Southeastern Feed Production School;** Continuing Education Center, University of Georgia, Athens; sec., Southeastern Poultry & Egg Assn., Harold E. Ford, 235 Ponce De Leon Ave., Decatur, Ga.

**Oct. 15-20—School of Executive Development in Business Management, Unit III;** Continuing Education Center, University of Georgia, Athens; sec., Southeastern Poultry & Egg Assn., Harold E. Ford, 235 Ponce De Leon Ave., Decatur, Ga.

**Nov. 1-3—Cornell Nutrition Conference;** Statler Hilton Hotel, Buffalo, N.Y.; chm., Prof. Douglas E. Hogue, Animal Husbandry Dept., Wing Hall, Cornell University, Ithaca, N.Y.

**1962**

**Jan. 29-31—Southeastern Poultry & Egg Assn.;** Municipal Auditorium, Atlanta, Ga.; sec., Harold E. Ford, 235 E. Ponce de Leon Ave., Decatur, Ga.

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**March 28—Illinois Swine Day;** University of Illinois, Urbana.

**April 3-4—National Institute of Animal Agriculture;** Purdue University, Lafayette, Ind.; sec., Karl D. Butler, P.O. Box 521, First National Bank Bldg., Ithaca, N.Y.

**April 5—Purdue Egg Day;** Purdue University, Lafayette, Ind.; David D. Jackson, Ext. Poultryman.

**April 6—Feeders Day;** University of Nebraska Experiment Station, North Platte; James C. Adams, Supt.

**April 7—Missouri Livestock Day;** University of Missouri, Columbia.

**April 9-13—American Association of Cereal Chemists;** Baker Hotel, Dallas, Texas; 1955 University Ave., St. Paul 4, Minn.

**April 10-12—Poultry & Egg National Board;** Sheraton Towers Hotel, Chicago, Ill.; mgr., Lloyd H. Geil, 8 S. Michigan Ave., Chicago 3.

**April 13-15—Pacific Dairy & Poultry Assn. Exposition and Convention;** Riviera Hotel, Las Vegas, Nev.; sec., Carl E. Nall, 1304 7th St., Los Angeles 21, Cal.

**April 14-15—Texas Grain & Feed Assn.;** Baker Hotel, Dallas, Texas; sec., R. B. Bowden, 504 Fort Worth Club Bldg., Fort Worth 2.

**April 17-18—Seventh Regional Area Convention, National Renderers Assn.;** St. Paul Hotel, St. Paul, Minn.; sec., Harold Weiss, Gulf Soap Corp., Arabi, Louisiana.

**April 20—Nebraska Beef Cattle Feeders Day;** University of Nebraska, Lincoln; Dr. R. M. Koch, chairman, animal husbandry department.

**April 20-22—Beef Cattle Short Course;** University of Florida, Gainesville; Dr. T. J. Cunha, head, Animal Husbandry & Nutrition Dept.

**April 20-22—California Hay, Grain & Feed Dealers Assn.;** Jack Tar Hotel, San Francisco; sec., Leo L. Johnson, Blue Anchor Bldg., 1400 10th St., Sacramento 14.

**April 21—Alabama Poultry Jubi-**

lee; Dinkler-Tutwiler Hotel, Birmingham, Ala.; sec., Alabama Poultry Industry Assn., W. L. Walsh, Box 567, Montgomery.

**April 21-22—Oklahoma Grain & Feed Dealers Assn.;** Biltmore Hotel, Oklahoma City; sec., E. R. Humphrey, Box 809, Enid, Okla.

**April 22—Alabama Poultry Industry Promotion Dinner;** Dinkler-Tutwiler Hotel, Birmingham, Ala.; sponsored by Alabama Poultry Industry Assn.; sec., W. L. Walsh, Box 567, Montgomery.

**April 24-26—Animal Health Institute;** Mayflower Hotel, Washington, D.C.; sec., D. L. Bruner, 512 Shops Bldg., Des Moines, Iowa.

**April 27-29—Kansas Grain & Feed Dealers Assn.;** Broadview Hotel, Wichita; sec., Orris E. Case, 609 Wiley Bldg., Hutchinson.

**April 28—Indiana Cattle Feeders Day;** Purdue University, Lafayette, Ind.; chm., Dr. W. M. Beeson, animal science department.

**May 4-6—Panhandle Grain & Feed Assn.;** Herring Hotel, Amarillo, Texas.

**May 5—Broiler Short Course and Chicken-of-Tomorrow Day;** University of Georgia, Athens; Dewey McNiece, Extension Poultry Dept.

**May 7-10—American Feed Manufacturers Assn. Convention and National Feed Show;** Conrad Hilton Hotel, Chicago, Ill.; sec., W. T. Diamond, 53 West Jackson Blvd., Chicago 4.

**May 7-10—Association of American Feed Control Officials;** Hamilton Hotel, Chicago; sec., Bruce Poundstone, Head, Feed and Fertilizer Control Dept., University of Kentucky, Lexington.

**May 14-16—National Cottonseed Products Assn.;** Eden Roc Hotel, Miami Beach, Fla.; sec., John F. Moloney, 43 N. Cleveland St., Memphis 4.

**May 14-15—Missouri Grain & Feed Assn.;** Hotel Coronado, St. Louis, Mo.; sec., D. A. Meinershagen, Higginsville, Mo.

**June 1-2—Arizona Ranch School and Cattle Feeders Day;** University of Arizona, Tucson; Dr. Bruce R. Taylor, head, Animal Science Dept.

**June 4-6—Indiana Grain & Feed Dealers Assn.;** French Lick-Sheraton Hotel, French Lick, Ind.; sec., Fred K. Sale, 600 Board of Trade Building, Indianapolis 4.

**June 8-11—Canadian Feed Manufacturers Assn.;** National Convention; Manoir Richelieu, Murray Bay, Quebec; national secretary, W. N. Hendrick, 2901 Bloor St. W., Toronto 18, Ont.; for registrations, T. G. Sevigny, Room 100, 355 McGill St., Montreal 1, Quebec.

**June 9-10—Arkansas Poultry Festival;** Little Rock; mgr., Arkansas Poultry Federation, John Haid, P.O. Box 1446, Little Rock.

**June 12-13—Eastern Federation of Feed Merchants;** Concord Hotel, Lake Kiamesha, N.Y.; sec., Austin W. Carpenter, Box 66, Sherburne, N.Y.

**June 13-16—Northeastern Poultry Producers Council Egg Quality School;** Pennsylvania State University, University Park, Pa.; sec., Richard I. Ammon, 10 Rutgers Place, Trenton 8, N.J.

**June 15-17—Delmarva Chicken Festival;** Harrington, Del.; Delmarva Poultry Industry, Inc., R.F.D. No. 2, Box 47, Georgetown, Del.

**June 19-21—American Association of Feed Microscopists Annual Meeting;** Continental Denver Motor Lodge, Valley Highway and Speer Blvd., Denver, Colo.; sec., G. M. Barnhart, Missouri State Department of Agriculture, Jefferson City, Mo.

**June 19-24—Feed Microscopy Short Course,** sponsored by American Association of Feed Microscopists; Continental Denver Motor Lodge, Valley Highway and Speer Blvd., Denver, Colo.; sec., G. M. Barnhart, Missouri State Department of Agriculture, Jefferson City, Mo.

**June 20-21—Alabama Poultry Industry Assn.;** Whitley Hotel, Montgomery, Ala.; sec., W. L. Walsh, Box 567, Montgomery.

**July 14-18—Georgia Feed Assn.;** Grand Bahama Club, Grand Bahama Island; sec., W. E. Merritt, Suite 1-A, 361 E. Paces Ferry Rd. N.E., Atlanta 5.

**July 18-20—American Poultry Congress & Exposition;** Municipal Auditorium, Minneapolis; Don M. Turnbull, sec., American Poultry & Hatchery Federation, 521 E. 63rd St., Kansas City 10, Mo.

**July 24-28—Southeastern Egg Quality and Grading School;** Auburn University, Auburn, Ala.; sec., Southeastern Poultry & Egg Assn., Harold E. Ford, 235 E. Ponce de Leon Ave., Decatur, Ga.

**Aug. 24-26—North Carolina Feed Manufacturers Assn.;** Virginia Beach, N.C.; sec., McNair Evans, Box 44, Mocksville.

**Aug. 24-27—Georgia Poultry Institute;** Rock Eagle 4-H Club Center, Eatonton, Ga.; Dewey McNiece, Extension Poultry Dept., University of Georgia, Athens.

**Aug. 28-29—American Soybean Assn.;** Claypool Hotel, Indianapolis, Ind.; Geo. M. Strayer, Hudson, Iowa.

**Sept. 11-13—Feed Production School;** Continental Hotel, Kansas City; sponsored by Feed Production School, Inc., pres., Lloyd Larson, 20 W. 9th St. Bldg., Kansas City 5, Mo.

**Sept. 19-21—Marketing Seminar for Feed Manufacturers;** Morrison Hotel, Chicago; Sales Executives Council, American Feed Manufacturers Assn., W. E. Glennon, president, 53 W. Jackson Blvd., Chicago.

**Sept. 27-29—National Feed Ingredients Assn.;** Lake Lawn Lodge, Delavan, Wis.; sec., I. Levin, 517½ E. Locust St., Des Moines 9, Iowa.

**Sept. 27-29—Pennsylvania Millers & Feed Dealers Assn.;** Hotel Hershey, Hershey, Pa.; sec., D. W. Parke, P.O. Box 329, Ephrata, Pa.

**Sept. 28-29—Arkansas Formula Feed Conference;** University of Arkansas, Fayetteville; Dr. E. L. Stephenson, animal industry and veterinary science department.

**Oct. 3-5—Northeastern Poultry Producers Council Exposition and Convention;** Farm Show Bldg., Har-


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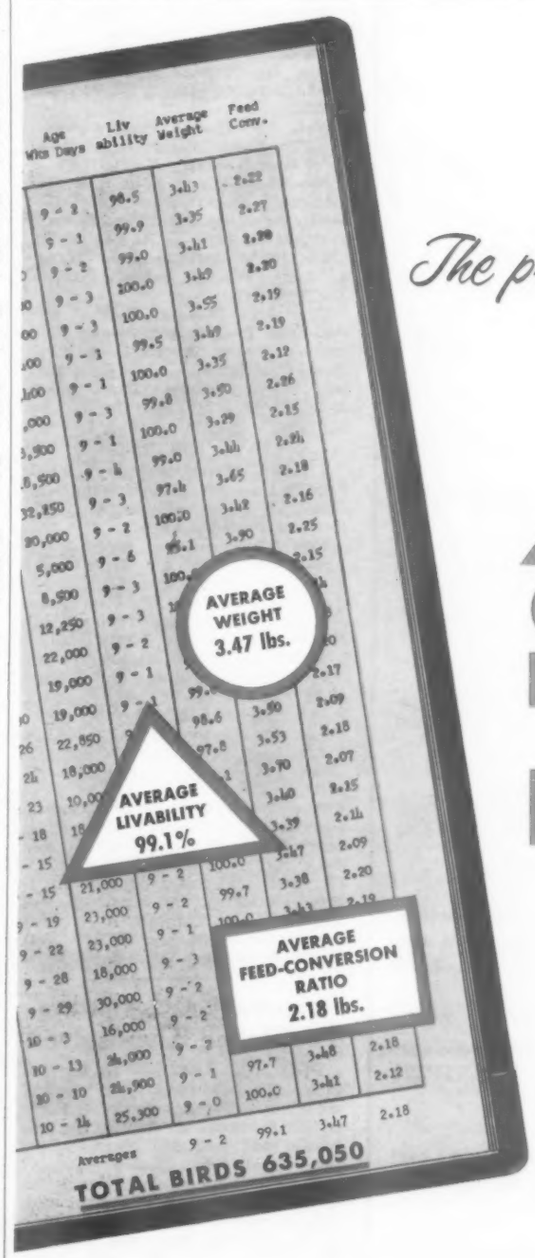


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risburg, Pa.; sec., Richard I. Ammon, 10 Rutgers Place, Trenton 8, N.J.

**Oct. 4-6—Texas Nutrition Conference;** Texas A&M College, College Station; chm., Dr. J. R. Couch, Poultry Science Dept.

**Oct. 10-11—Iowa Poultry Convention;** Veteran Memorial Auditorium, Des Moines; sec., Iowa Poultry Assn., LeRoy Kruskop, 535 E. Lincoln Way, Ames, Iowa.

**Oct. 23-25 — Centennial Nutrition Conference;** Hotel Muehlebach, Kansas City 5, Mo.; sponsored by Midwest Feed Manufacturers Assn. and Land-Grant Colleges in Midwest's area; executive vice president, Lloyd S. Larson, 20 W. 9th St. Bldg., Kansas City 5, Mo.

**Oct. 24-25—Virginia State Poultry Federation;** Hotel John Marshall, Richmond, Va.; sec., J. Paul Williams, 615 E. Franklin St., Richmond 19.

**Oct. 26-28—Association of American Feed Control Officials;** Shoreham Hotel, Washington, D.C.; sec., Bruce Poundstone, Head, Feed and Fertilizer Control Dept., University of Kentucky, Lexington.

**Nov. 1—Animal Nutrition Research Council;** Shoreham Hotel, Washington, D.C.; sec., Dr. Philip Derse, Wisconsin Alumni Research Foundation, 506 Walnut St., Madison 5, Wis.

**Nov. 1-2—Kansas Poultry Assn.;** Broadview Hotel, Wichita; sec., Harry J. Reed, Box 663, Manhattan.

**Nov. 8-9—Illinois Feed Assn.-Illinois Poultry and Hatchery Federation joint convention;** Springfield Armory, Springfield; sec. I.F.A., Dean M. Clark, 141 W. Jackson Blvd., Chicago 4; sec. I.P.H.F., Aubrey Harless, Shelbyville, Ill.

**Dec. 6-7 — Missouri Poultry and American Poultry & Hatchery Federation Midwest Quickie Convention;** Hotel Continental, Kansas City, Mo.; sec., Missouri Poultry Improvement Assn., E. M. Funk, Box 568, Columbia, Mo.

**1962**

**Feb. 4-6—Wyoming Grain, Feed & Seed Dealers Assn.;** Townsend Hotel, Casper, Wyo.; sec., Everett L. Berry, Box 118, Sheridan, Wyo.

**Feb. 5-7—Association of Southern Agricultural Workers;** Jacksonville, Fla.

**Feb. 14-15—Pacific Northwest Feed Mill Production School;** Chinook Hotel, Yakima, Wash.; sponsored by Washington State Feed Assn.; mgr., John G. Wilson, 814 Second Ave. Bldg., Seattle 4.

**Feb. 16 — Washington State Feed Assn.,** annual convention; Chinook Hotel, Yakima, Wash.; mgr., John G. Wilson, 814 Second Ave. Bldg., Seattle 4.

**Aug. 13-18—12th World's Poultry Congress;** Show Grounds of the New South Wales Royal Agricultural Society, Sydney, Australia; Dr. Cliff D. Carpenter, chairman, U.S. Participation Committee, 1207 Emerald Bay, Laguna Beach, Cal.; Dr. A. William Jasper, secretary, c/o AFBF, 2300 Merchandise Mart, Chicago 54, Ill.

## Arizona Cattle Group To 'Police Themselves'

PHOENIX, ARIZ. — During the 27th annual meeting here, the 117 members of the Arizona Cattle Feeders Assn. reaffirmed that on the stilbestrol and feed additive questions, they would "police themselves."

Charles Wetzler, past association director and Valley stockman, said, "Those people in government don't know anything about our business. We should set our own rules, straighten out our own problems."

William B. Swahlen, Jr., reelected chairman of the statewide group Feb. 18, said, "We don't know if the 48-hour stand we now require before slaughter of stilbestrol-fed cattle is the best way to prevent any problem with the meat. We don't know if it's even needed at all. But it's our own rule. Let's stick with it. Otherwise, we're liable to have our kind of cranberry scandal brought on by government control."

## Quad State Speakers Flay Feed Grain Clause

By PAUL ANDERSON
Feedstuffs Staff

SIOUX CITY, IOWA—The Kennedy administration's proposed compliance clause in the emergency one-year feed grain control program now before Congress got a rough going-over at the 10th Quad State Grain & Feed convention held here this week.

George Wilken, vice president of the Minneapolis Grain Exchange, hammered away at section 3 (the compliance clause) in the key address at the afternoon session.

He said: "I don't think it is proper and right to leave this threat in the grain bill—it would meter the corn crop through government hands."

The compliance clause of the bill would give Orville Freeman, secretary of agriculture, authority to sell corn at prices he would elect, but not less than 17% below support prices.

The House voted to include the compliance clause and the Senate knocked out section 3. A joint House-Senate committee at present is studying the bill.

Dean Daniels of Sioux City, president of the Sioux City Grain Exchange, also spoke against the plan, saying if the section were included no one would know what the grain prices would be, when to sell or how much to store.

Mr. Wilken said enactment of this clause would give Secretary Freeman "dictatorial command of grain prices."

### Food for Peace

On the positive side, Mr. Wilken said the government's Food-for-Peace plan looks like it may help American grain exports. He said South America probably would attempt to buy grain on credit sales and this would double the amount it got previously.

Another speaker was O. G. Claflin, Milwaukee railway agricultural agent at Aberdeen, S.D. Mr. Claflin forecast a poor grain crop in Dakota this year unless spring rains come to the rescue.

He also predicted that Dakota would undergo great agricultural change, turning from grain production to more and more livestock feeding operations.

James Hogan of St. Louis, manager of the grain, grain products and merchandising department of the Ralston Purina Co., said in one of the sessions that less security and more opportunity was what agriculture needed.

Mr. Hogan said he thought most grain and feed dealers shared his view of the free enterprise system.

About 550 persons from Iowa, South Dakota, Minnesota and Nebraska attended the convention.

### Roosevelt Talk Canceled

Cancellation of Elliott Roosevelt's speaking appearance disappointed convention officials. Mr. Roosevelt's wife notified the convention that Mr. Roosevelt was ill with ptomaine poisoning. She said he was in Minneapolis Sunday night and became ill when he arrived home at Sheldon, Iowa.

Mr. Roosevelt, son of the late President Franklin D. Roosevelt, was former executive officer of the Northern Biochemical Co. at Sheldon that went bankrupt after it was discovered Mrs. Burnice Geiger of the Sheldon National Bank had honored thousands of dollars of company checks and had not charged them to the firm's account.

Mr. Roosevelt has since been trying to start a new company, the Sheldon Chemical Co. He and his family moved to Sheldon recently from Denver, Colo.

Norm Nichols, president of the Sioux City Grain & Feed Assn., presided at the opening session. Connie Fliginger and Dave Parkhill were co-chairmen for the convention.

## EGG SHELL

(Continued from page 24)

ing that increasing the calcium intake from 2.25 to 3.75% will markedly improve egg shell quality as measured by specific gravity technique.

It was further established that a strain of birds capable of producing good shell quality with 2.25% calcium responds to an even greater degree to an increased calcium intake than a poor shell quality strain. We cannot be certain that other strains of birds will respond equally well, but if they possess inherently good shell quality traits, some response to increased calcium would probably occur. Whether a calcium level between the two used may have been adequate for the improvement obtained with the commercial strain is not known. However, it has been previously shown that the Idaho strain will respond to still higher calcium levels and based upon a greater increase in specific gravity obtained with the commercial strain in this experiment, it would appear that these birds might also have responded to calcium intake above 3.75%.

The results of this experiment further substantiate the belief that high production rates obtained today do result in higher calcium requirements for good egg shell quality. The average egg production for the commercial strain for the entire experiment was 73.6%. Similar production rates have been obtained in previous years with the Idaho strain at which time shell quality was improved with calcium intakes up to 4.50 and 5.25%. In this experiment, egg production for this strain of birds was reduced during the last 10-12 weeks of the experiment to between 40 and 50%. At this reduced production, a calcium intake of 2.25% resulted in shell quality equal to 3.75%. It would, therefore, appear that calcium requirements for production of sound shells is at least 3.75% when the hens are producing at a high rate which is essential for profitable egg production in present-day economic conditions.

Increasing the calcium content of the ration resulted in an increase in total feed consumption equivalent to the increase in the calcium supplement. This resulted in only a very small increase in total feed cost per bird per year because of the relatively low cost of calcium supplements. Reducing egg breakage losses by one or two eggs per bird per year would be sufficient to pay for the increased feed consumed.

Although further work is needed to establish possible differences in calcium requirements for different strains, producing at different levels, and housed under varying temperature conditions, results of four years work at the Idaho Agricultural Experiment Station indicate that the calcium content of rations fed to high producing hens should be increased considerably over previously accepted levels.

v v


REFERENCES

(1) Bennion, N. L., and Warren, D. C.—Temperature and its effect on egg size in the domestic fowl; Poultry Sci., 12:69-82, 1933.

(2) Miller, M. W., and Bearse, G. E.—Phosphorus requirements of laying hens; Wash. Agr. Exp. Sta. Bul. 306, 5-20, 1934.

(3) Warren, D. C., and Schnepel, R. L.—The effect of air temperature on egg shell thickness in the domestic fowl; Poultry Sci., 19:67-72, 1940.

(4) Petersen, C. F. — Influence of high calcium intake upon egg production factors —including shell quality; Feedstuffs, 32: 18:26-31, April 30, 1960.

(5) Petersen, C. F., Conrad, D. H., Lumijarvi, D. H., Sauter, E. A., and Lampman, C. E.—Studies on the calcium requirements of high producing White Leghorn hens; Ida. Agr. Exp. Sta. Res. Bul. 44, 3-34, June, 1960.

(6) Thornton, P. A.—The effect of dietary calcium level on the efficiency of ascorbic acid in maintenance of egg shell thickness at increased environmental temperatures; Poultry Sci., 39:1401-1406, 1960.

**OKLAHOMA STATE SCIENTISTS—These are the Oklahoma State University poultry nutritionists who have conducted studies resulting in a method of formulating turkey starter and grower diets using daily nutrient intake as the feeding standard. At right is Dr. Rollin H. Thayer, professor of poultry nutrition at the Stillwater, Okla., university. With him are three of his "four wisemen," graduate students working under his guidance. They are, from left: Lealon V. Tonkinson, Earl W. Gleaves and Kenneth E. Dunkelgod. Not pictured is another member of the quartet, Don de Steigner. This picture was taken when the group appeared on the Feb. 9 program of the newly established Oklahoma Industry-University Seminar. Regular seminar sessions are conducted for the benefit of the feed industry and related industries at Oklahoma City.**


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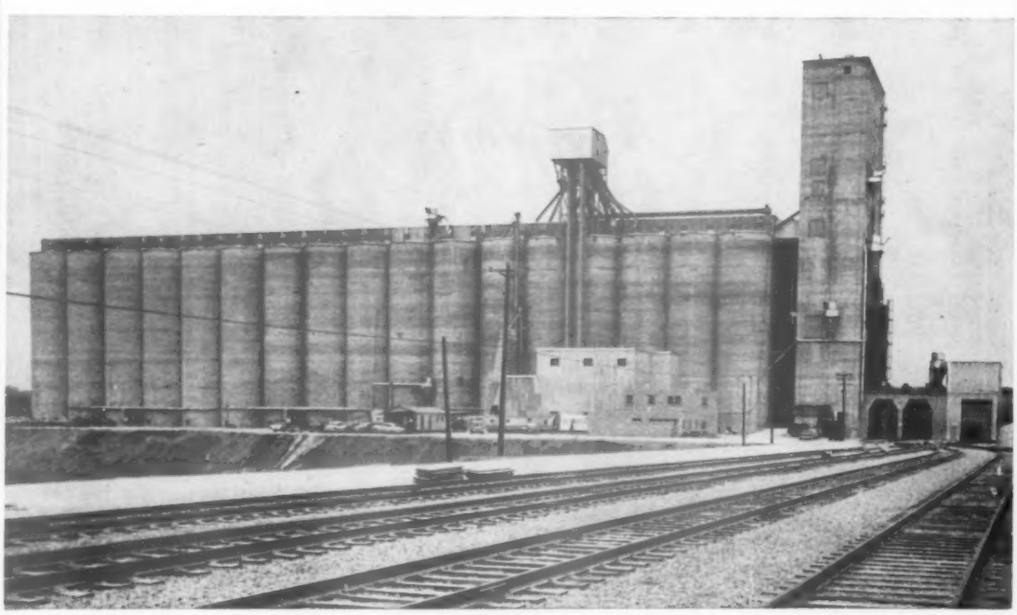

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## Nebraska Group Told Of Importance of Vitamin A for Cattle

WISNER, NEB. — Sub-par performance by beef cattle may be due primarily to poor vitamin A nutrition, a University of Illinois animal husbandman pointed out recently.

Dr. G. S. Smith spoke at the Northeast Experiment Station Assn.'s sixth annual meeting. He told feeders that the incidence of the vitamin A problem is increased under conditions which presumably would favor the accumulation of nitrates in forage plants.

In other words, Dr. Smith said, drouth, heat, excessive planting rates with consequent shading of plants, and increased usage of nitrogen fertilizers are factors possibly contributing to the problem.

"It has been shown that the vitamin A nutrition of animals is affected by dietary nitrates," the Illinois scientist stated.

In the Corn Belt, he explained, the apparent vitamin A problem has been frequently noted in conjunction with silage-feeding programs, either during the period of silage feeding, or more commonly during the period of full grain feeding following a silage wintering program.

**Illinois Studies**

Dr. Smith cited University of Illinois studies comparing the liver stores of vitamin A in two groups of steers fed "low nitrate" and "high nitrate" corn silage. Liver contents of carotene were significantly increased by "high nitrate" silage, thus suggesting that the "high nitrate" silage interferes with the ability of the animal to convert carotene to vitamin A.

Other current research at Urbana is concerned with the influence of nitrogen fertilization and seeding rates upon the nitrate content of corn silages, and the extent to which vitamin A nutrition of cattle is affected by high nitrate silages.

"Results obtained reveal that the nitrate content of corn silage is increased by heavy seeding of the stand (30,000 seeds per acre) on soils that are high in nitrogen fertility," he added.

The program also took up the other problems in beef cattle feeding.

A researcher at the Northeast Experiment Station said experiments at that station show that "pelleting has increased feed economy beyond that accounted for by greater feed intake."

Walt Tolman, the station's cattle researcher, said that these tests have also pointed out the difficulties in returning to "usual rations" after the cattle have been pellet fed.

"The possibility of replacing part of the grain with pelleted roughage is clearly illustrated by the results of these feeding trials conducted over a two year period," he concluded.


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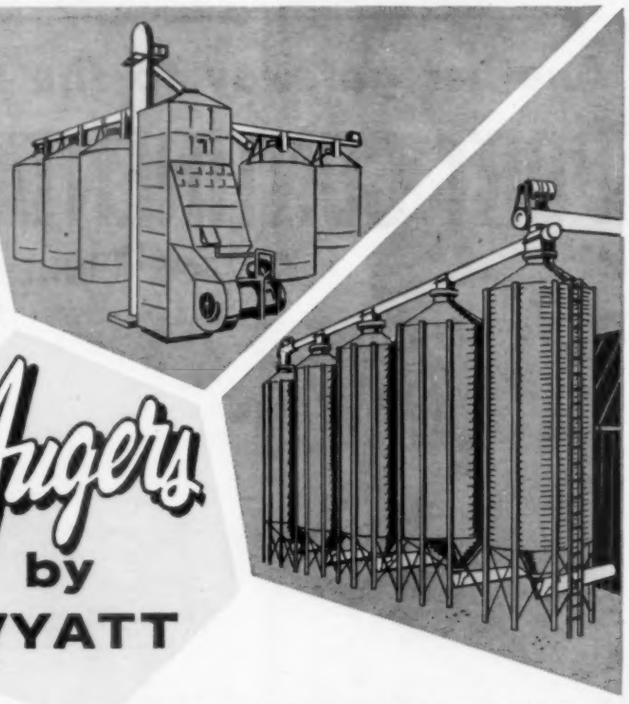

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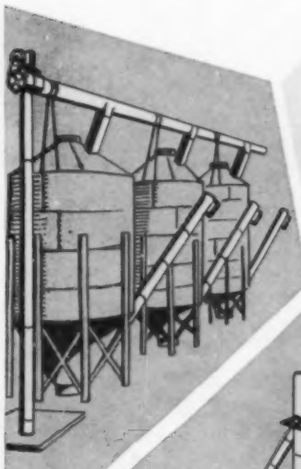

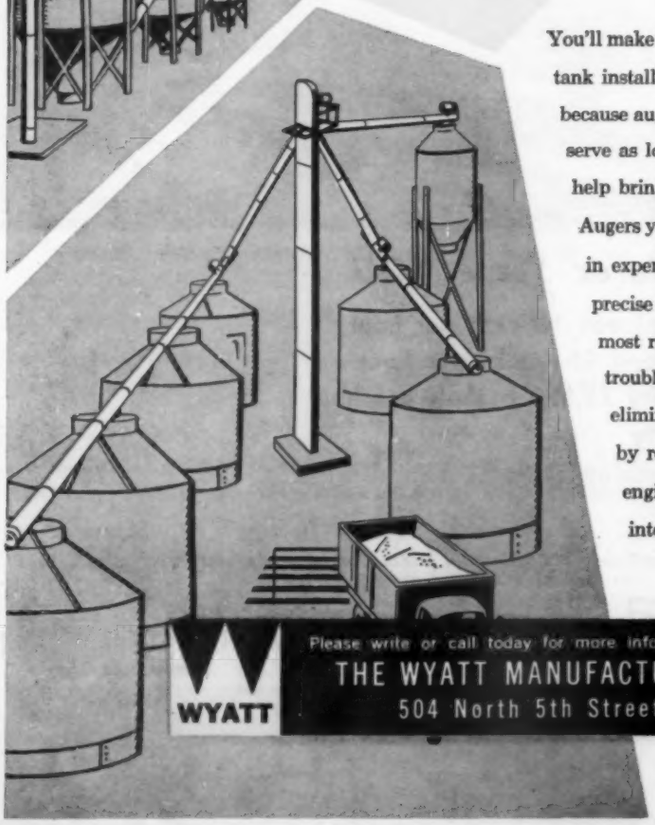

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## Brand Name Program For Turkey, 'Home' Mixing Discussed

TRENTON, N.J. — A proposed brand name merchandising program as it would apply to turkeys and "home mixing" of feeds were among the subjects discussed at the annual meeting of the turkey division of the Northeastern Poultry Producers Council.

The division was reported enthusiastic as NEPPCO's executive secretary, Richard I. Ammon, unveiled the council's proposed brand name merchandising program as it would apply to turkeys.

"As I see it," commented William B. Gozzi, chairman of the turkey division, at the close of the session, "this program offers the best hope for a stable turkey industry here in the Northeast. I intend to adopt as my personal goal the successful operation of this program."

George Wentz, Ambler, Pa., turkeyman, told the assembled industrymen that he had "cut turkey feeding costs by approximately one third by using 'home mixed' feeds." Mr. Wentz grows out some 60,000 birds annually on feeds he produces on the farm.

He said he utilizes a "base mix," then with a hammermill and small vertical mixer adds basic ingredients to make a finished feed. Mr. Wentz buys and stores ingredients in bulk. Formulation and quality control checks, he said, are performed for him by a laboratory nutritionist whose firm supplies the base mix.

**Officer Named**

Mr. Gozzi, nationally-known turkey breeder from Guilford, Conn., was named chairman of the turkey division at the annual meeting. He replaces Albert G. Palmateer, Elverson, Pa.

## *Elanco Promotes Paul M. Sanders*

INDIANAPOLIS — The promotion of Paul M. Sanders to head of quality control for Elanco Products Co., a division of Eli Lilly & Co., has been announced. Mr. Sanders joined Lilly in 1956 after serving with the U.S. Food & Drug Administration for seven years.

Paul Sanders

Born in Massachusetts, Mr. Sanders was graduated from Boston's Memorial High School for Boys in 1940. He attended John McNeese Junior College and received a B.S. degree in chemistry from the University of Louisville in 1949. He has done graduate work in chemistry at Xavier University.


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**TABLE 2. Amino Acid Content of Menhaden Fish Meal**
**(Data Expressed as Percent of Protein)**

| Amino acid | Per cent | Amino acid | Per cent |
|---|---|---|---|
| Alanine | 6.4 | Lysine | 7.6 |
| Arginine | 5.4 | Methionine | 3.1 |
| Aspartic acid | 8.0 | Phenylalanine | 3.8 |
| Cystine | 0.7 | Proline | 2.3 |
| Glutamic acid | 12.1 | Serine | 4.1 |
| Glycine | 6.5 | Threonine | 4.1 |
| Histidine | 2.4 | Tryptophan | 1.1 |
| Isoleucine | 4.2 | Tyrosine | 3.0 |
| Leucine | 6.8 | Valine | 4.4 |

## AMINO ACID

(Continued from page 15)

od. This cannot be attributed to disease differences in these trials. It is possible that change in day length and total exposure to light might be involved, but this requires further investigation.

Dr. Combs also observed that fat level per se did not appear to have any advantage at cold temperatures except as a means of increasing nutrient density.

**AMINO ACID AVAILABILITY AND FISH MEAL QUALITY**—Fish meals contain good quantities of the important essential amino acids, especially those needed to balance vegetable proteins, said Dr. L. E. Ousterhout of the Bureau of Commercial Fisheries.

Recent analyses show that the average menhaden fish meal (60% protein) has an amino acid composition as given in Table 2. There appears to be only a little variation in amino acid composition of the protein of commercially prepared meals even though the meals may be prepared from various species, whole fish or fillet house or cannery waste, fresh or spoiled fish or in many varied types of equipment.

Work in Dr. Ousterhout's laboratory indicates that more than 90% of the essential amino acids present in a high quality meal may be utilized by the chick. Few commercial meals in recent years fall very far below the good meals, Dr. Ousterhout said.

**SELENIUM**—In a talk on vitamin E, antioxidants and selenium in poultry and livestock nutrition, Dr. John G. Bieri of the National Institutes of Health, Bethesda, Md., noted the manner in which trace amounts of selenium substitute in part for vitamin E. In several laboratories, however, it has been shown that selenium imparts an antioxidant-like property to various tissues. Such a finding is consistent with the function of vitamin E and may partially explain the relationship between these nutrients.

On the other hand, the greater effectiveness of selenium in preventing or curing white muscle disease in lambs and calves suggests that this element may function in these species independent of any action of vitamin E.

There is no justification at present for adding selenium to poultry rations, Dr. Bieri said.

He also observed in talking about antioxidants and vitamin E that it is now more logical to think in terms of an antioxidant requirement rather than a vitamin E requirement.

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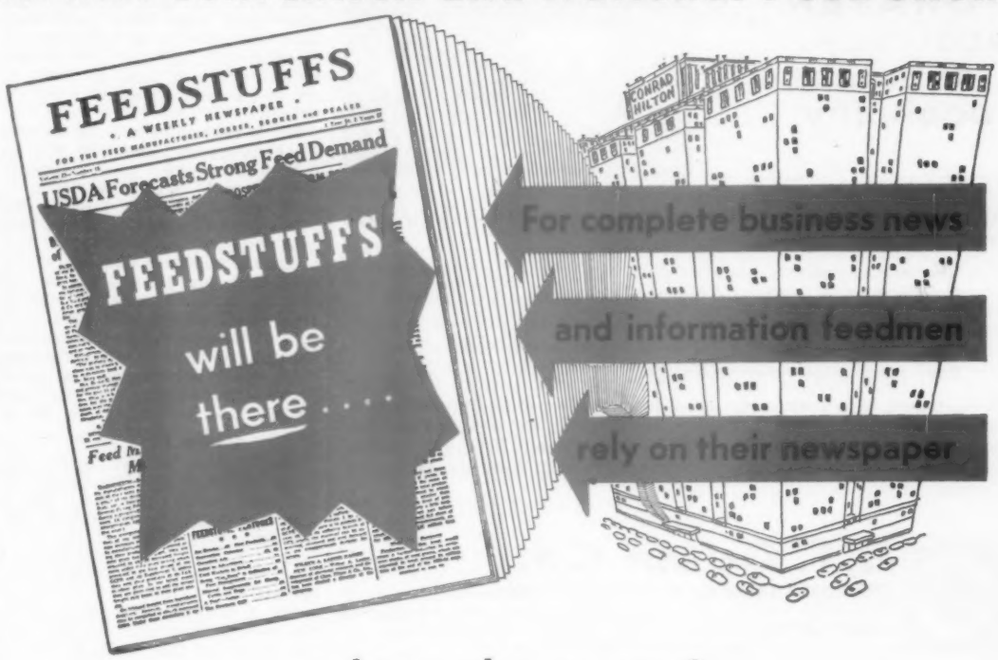


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# Iowa Producer Says He Puts Gain on SPF Hogs at Cost of 7.4c Lb. for Feed

By DWIGHT BANNISTER
Iowa State University

AMES, IOWA — Feed manufacturers in the future may be designing rations for pigs that are capable of producing a pound of gain on two pounds of feed as producers continue to develop specific pathogen-free swine.

There may be some new angles in mixing this kind of feed.

Right now, on feed now available, Willard Dielschneider, Conrad, Iowa, hog producer, says he has put weight on his pigs up to 94 lb. at a cost of only 7.4¢ lb. for feed.

Mr. Dielschneider told fellow producers at the recent Iowa Swine Production Conference that the reason for this high efficiency and low cost is that "all the feed goes to produce pork, not disease-fighting viruses."

Nutrition scientists, naturally, won't have anything to say about what SPF pigs can use in their rations that ordinary pigs don't—and what SPF pigs may not need that other pigs must have—until they have had time to do some feeding research with SPF pigs. But it may be an interesting topic for folks in the feed industry to speculate on, informally.

Mr. Dielschneider said he weaned his naturally-farrowed SPF pigs at four to five weeks of age. He believes now it would have been better to have weaned them at three weeks. "They grow so rapidly that they outgrow the sow," he said.

Mr. Dielschneider was one of the Iowa producers who took up the specific pathogen-free program shortly after it was started in this state. He warned the producers at the conference that those who go into the program must not expect that their problems are solved when they start an SPF herd.

### Capital Costs High

Capital costs for starting the program are relatively high, he warned, and they include the "dry" period when the grower has no hogs to sell. All swine have to be moved off the farm and the farm must be kept clean to be ready for the SPF pigs, he said.

The first few weeks on the farm the hysterectomy SPF pigs will look bad. Many of the pigs will remain small. The first producers to undertake the program, Mr. Dielschneider said, were in serious trouble with enterotoxemia at about the time when the hysterectomy pigs reached 100 lb. weight. After this trouble was "figured out" and the producers limited the feed for these pigs, the enterotoxemia was controlled.

Other problems developed because producers failed to keep the hysterectomy pigs away from all possible disease sources. They found their animals became infected with some diseases that had not been known to exist in the neighborhood before. He said it appeared that these were diseases with which swine herds had been living for years and were combatting continually, unknown to their owners.

In spite of these and other problems of getting the herds started, Mr. Dielschneider said, and considering the cost of getting started, the producer who undertakes the program will be financially "ahead" at the end of two years. "If you can manage an ordinary herd of hogs and make money, you can manage SPF swine," he said.

### Hysterectomy Method

He recommended hysterectomy as the best way to start SPF swine herds, although it is the method that requires the most capital investment and the longer "dry period"—16 months—before the producer has any hogs to sell.

He suggested that sometimes it may be possible to work out an arrangement to have the old herd cared for on another farm while the pathogen-free pigs are developing on the clean farm. The old herd in this way can help pay the bills for the new SPF herd.

Another way to get into the program is to buy natural-farrowed SPF swine from an owner who has reached the point where he is producing SPF pigs naturally. However, he warned, if you buy stock, ask for absolute proof that the pigs you buy can be certified. The requirements for certification are definite.

No matter how you start the program, Mr. Dielschneider advised, keep in touch with your veterinarian, confer with others in the program and join or form an SPF association to keep in touch with the experiences of others in the program and learn from them.

The first litters of pathogen-free pigs farrowed naturally in Iowa were farrowed last June 3. The gilts for the SPF herds which began farrowing in June came from the laboratory of Dr. B. O. Combs, Conrad. Other laboratories are now in operation in other parts of the state doing hysterectomies for producers wishing to establish pathogen-free herds.

• • •

# Speaker Says Key To Future Farm Mixing Is Economics

By DWIGHT BANNISTER
Iowa State University

AMES, IOWA—Economics and efficiency will determine whether the increasing need for feed for livestock will be met by the feed industry or mixed on the farm, Dr. J. A. Hoefer, Michigan State University, told the Iowa Swine Production Conference here.

"Whoever can do it best will get the business," he said.

He told the swine men it is a mistake to look upon farm mixing as a "declaration of war against the commercial feed industry." If we accept the premise that we raise hogs strictly to make money, he said, then it simply means that the feed industry must perform a service for the farmer better than he can perform it for himself.

Dr. Hoefer pointed out there are few good statistics to indicate what is happening at the farm mixing level. We do know, he added, that farms are getting larger and that we have more multiple farrowing accompanied by an increase in confinement rearing and mechanization. The census figures show that as dollar volume of livestock sold goes up, the number of farms with grinders and mixers increases, he said.

A recent Illinois survey of 300 farmers, he said, showed only 84 out of the 300 were feeding mixed rations "all the way." Of those mixing feed at home only 12 were building feed "from the ground up."

Dr. Hoefer cautioned the more than 1,200 men at the conference


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**AT NEBRASKA CONVENTION**—An estimated 700 persons attended the 33rd annual convention of the Nebraska Grain & Feed Dealers Assn. in Omaha March 8-9. Here are some of the scenes recorded by the Feedstuffs camera. The first photo, from left to right, shows Dr. John Adams, head of the poultry department, University of Nebraska; Howard W. Elm, association secretary, and Clarence Jacobson, Lexington (Neb.) Mill & Elevator Co. Dr. Adams was one of the convention speakers and Mr. Jacobson presided over the first day's session.

Presentation of a mink stole is shown in the center photo. Larry A. Weeke, Farmers Union Cooperative Mill, Superior, Neb., was the winner of the stole given away by the Caldwell Manufacturing Co., Kearney, Neb., at the Nebraska convention. Mr. Weeke, left, is pictured receiving the prize from R. W. Caldwell, company president.

The last photo shows a Nebraska convention group on their way to a social function. From left to right, they are Robert J. Schilling, Schilling Grain Co., Pawnee City, Neb.; Mrs. Fink; John Fink, Cedar Creek (Neb.) Grain Co.; James Morgan, Simonsen Manufacturing Co., Quimby, Iowa; Fred Gildersleeve, Wayne (Neb.) Grain & Feed, and Wendell Coulter, Cedar Creek (Neb.) Grain Co.

that there are at least 12 things the farmer should consider as he contemplates mixing his rations on the farm:

(1) The farmer who mixes his own rations must have nutritional knowledge, time to study and interpret and to shop around for ingredients.

(2) He will need equipment, including a grinder-mixer, storage bins and elevating equipment.

(3) He must keep formulations relatively simple for major ingredients to get quantity discounts and save warehousing problems.

(4) His feeding operation must be "reasonably sizeable" to justify the investment.

(5) He should recognize he is making a fixed investment. Thereby he loses some flexibility in his farm program.

(6) He must include in his costs the taxes and interest on his investment, depreciation and labor as well as ingredient costs.

(7) Unless he has a "very sizeable" operation he will not have pelleted rations available.

(8) He must have available a steady source of ingredients at a fair cost.

(9) He must be aware of public health responsibilities and activities of regulatory agencies.

(10) He will not have advisory service and credit financing of the feed industry as readily available.

(11) He will have the advantage of knowing exactly what he is feeding.

(12) He should bear in mind that simple free-choice feeding has many advantages and in many cases produces gain at lower total cost than complete mixed rations, despite the known nutritional merits of complete mixed feeds.

The Michigan State professor of animal husbandry said that the farmer has a possibility of making three kinds of on-the-farm mixes. One is grain plus supplement. Another is a ration built "from the ground up," and would require him to handle 10, 20 or even more ingredients. Another is a mixture of grain, supplement and premixes.

**Nutrient Knowledge**

He warned that feeding standards such as those set up by the National Research Council are useful as guides but they require nutrient knowledge in their users. The standards are not fool-proof, he commented. Individual variations in the feeds are important. Chemical analyses don't always show the same nutrient contents for two different samples from the same lot of feed.

The same feeds from different sources may differ in nutrient content. And, Dr. Hoefer warned, you have to know how different feeds react on each other in a ration. Zinc or copper, for instance, may be essential in a high-calcium ration, not in a low-calcium ration. And one can run into serious imbalance of some nutrients if one attempts to use the same supplement throughout an entire feeding period, he said. A supplement adequate in all essential nutrients for pigs weighing 50 lb. may be adjusted accurately to fit the protein needs of older swine, but may then be deficient in another vital nutrient, he stated.

## Two Mills Appointed

LEXINGTON, KY. — Sun-Ray Feeds Mills, originator of Stamm, a supplement for horses, has announced the recent appointment of two additional mills as licensed manufacturers of Stamm.

They are: Clyde (N.Y.) Milling Corp. and Longworth Milling Co., Ltd., Toronto, Ontario. Clyde Milling Corp. will service New York state and areas in the New England states. Longworth Milling Co., Ltd. will service horsemen in the provinces of Ontario and Quebec.

## OKLAHOMA

(Continued from page 16)

vide a market for home grown feeds, (2) increase the value of feeder cattle (heifers), (3) take advantage of pasture and cheap roughage, (4) sell labor and know-how and (5) keep manure value on the farm.

The operator of a large feedlot can: (1) Take advantage of buying feed in volume at low seasonal prices, (2) make a better buy of feeder cattle, (3) take advantage of know-how and ability, (4) make use of equipment and machinery, ration balancing, feed additives, (5) take advantage of better market outlets with "reputation" cattle and (6) sell feed and feeding ability, with little or no risk.

**Rules of Thumb**

Big or small, here are Dr. Pope's rules of thumb for fattening cattle:

—Fattening cattle on "full feed" will eat about 2 lb. grain and ½-¾ lb. roughage per hundredweight if hand fed; 3% or more of body weight per day if self fed.

—It takes about a ton of grain to fatten a steer to top good or low choice grade. The grain makes up 75% or more of the total feed cost.

—Coarse to medium grinding of grain is preferred since finely ground grain is less palatable.

—Heifers require about 30-45 days less time to reach desired slaughter grade than steers.

—Steers gain about 15% faster than heifers; require about 10% less feed per hundredweight of gain.

—Fattening rations should contain about 11% crude protein (8½% digestible protein). Usually this means about 1½ lb. of 40% protein supplement per head daily, or its equivalent.

—Fattening rations are almost always adequate in phosphorus (0.2% or more of dry matter), but may be low in calcium unless legume roughage is fed.

—Stilbestrol implanted (24-36 mg.) or fed (10 mg./day) will increase gains of steers by 15-18% and cut feed/cwt. gain by 12%. Response with heifers is less than with steers. If stilbestrol-fed steers are on feed the same length of time as steers without stilbestrol, there is little difference in grade.

—Response to antibiotic is usually low (3-5% increase in gain) depending on cattle and conditions.

Dr. Pope referred to test results which showed that younger, lighter fattening cattle have the advantage over older, heavier cattle when it comes to gain efficiency.

## Pfizer Plans Awards to Demonstration Agents

NEW YORK—Chas. Pfizer & Co., Inc., will make four $1,500 awards to home demonstration agents in 1961, one in each of four extension service regions of the nation.

The awards will be made on behalf of the agricultural division of the drug and chemical firm.

Competition is open to all agents who have a minimum of five years' experience. Purpose of the awards is to provide an opportunity for home demonstration agents who have developed outstanding programs and demonstrated community, state or national leadership, to receive additional professional training.

Recipients are required to use the award fund for advanced study and/or travel abroad.

This is the seventh consecutive year that Pfizer has sponsored these awards. The 1961 winners will receive their awards at the National Home Demonstration Agents' Assn. convention, Oct. 10-13, in Boston.

Applicants can obtain full information on the award program from their state extension director. One individual is selected from each state, and her application is forwarded to a national selection committee. This group of state and federal extension leaders selects the four award winners.

Final applications must be submitted to the national selection committee by the states before July 1.

**OHIO FEED MAN DIES**

TOLEDO, OHIO—Harry L. Parker, 72, retired senior traffic clerk of the General Mills feed division in Rossford, died at his home here. Mr. Parker worked 34 years at the General Mills feed division before retiring seven years ago.

**IN THE CLASSROOM**—The students in the picture at left are Oklahomans who participated in the 12th annual Oklahoma Feed Industry Conference and Workshop at Stillwater. Their teacher (left) is Dr. L. J. Bush, department of dairying, Oklahoma State University, who was in charge of the ruminant session. Pictured at right during a coffee break are representatives of the Ralston Purina Co. (from left): Dr. J. M. Vandepopuliere, St. Louis, assistant manager of Purina's broiler and roaster research division; Weldon S. Street, manager of the company's Oklahoma City plant and president of the Oklahoma Feed Manufacturers Assn.; Emmel B. Golden, Muskogee plant manager, and Norvin G. Stunkel, Stillwater, territory sales representative.

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**PERMA-SOL** A water soluble coated vitamin A product to be used where water solubility is desired.

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U.S. Patent No. 2496634 and others pending

8/18

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## S. Howes Co. Elects Two New Officers

SILVER CREEK, N.Y.—At its annual meeting here March 7, the S. Howes Co. elected two new officers and directors.

Charles Metzger, a veteran employee with more than 40 years of service with the S. Howes Co., was named a vice president. Mr. Metzger previously had been a member of the accounting department and had served as company treasurer.

Miss Virginia A. Wolf was elected treasurer and a member of the board of directors. She previously served as assistant treasurer.

Also elected to membership on the board was George R. Willis, who is vice president of sales for the company.

Alexis C. Barbeau, Jr., president, S. Howes Co., noted that the changes reflect a "strengthening of our top management team" in keeping with the company's current program of expanding its sales, engineering, production and other departments.

## Vice President Named

NEW YORK—Armand J. Scully, Sr., has been named vice president in charge of sales for the Colonial Molasses Co. of Louisiana, Inc., according to Frank C. Staples, company president.

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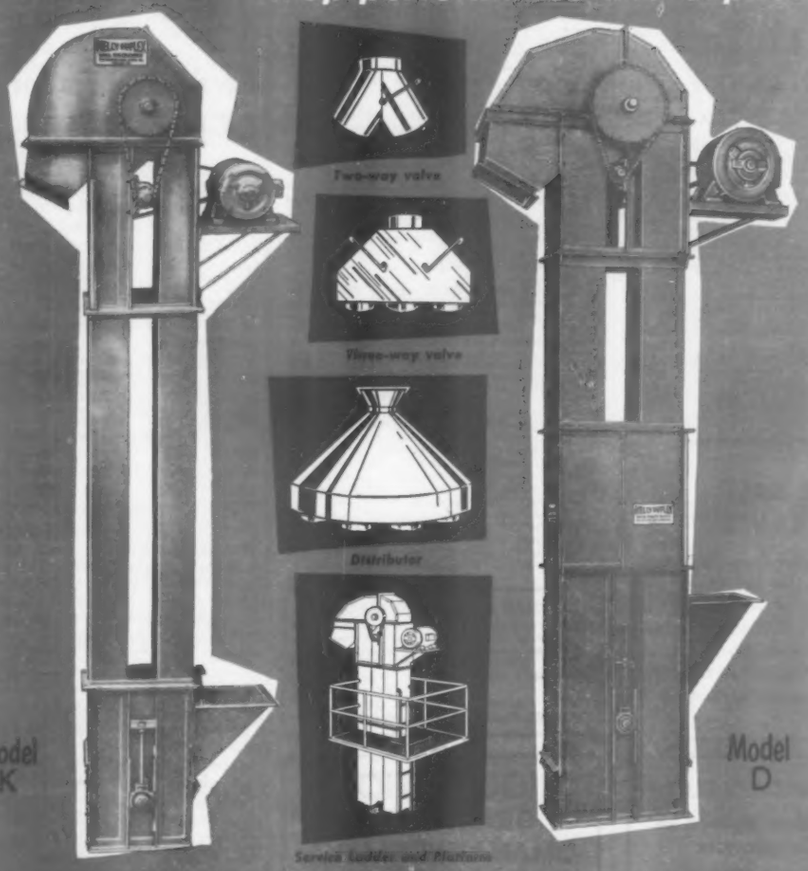


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**FOR SALE OR LEASE—FULLY AUTO-**matic hydraulic protein block press with building. Land in stockyards area. Emmett Billon, Sheraton Warrior Hotel, Sioux City, Iowa.

**FOR SALE—FEED AND GRAIN ELEVA-**tor located northwestern Ohio; 25,000 bu. storage; practically new equipment; good railroad siding. Ideally situated middle of heavy feeding territory. Excellent location for large commercial feed mill desiring retail outlet. Address Ad No. 6741, Feedstuffs, Minneapolis 40, Minn.

**FOR SALE — FEED MANUFACTURING** plant equipped with pellet mill, molasses mixer, etc. Located in Sioux City, Iowa. Will sell with or without business. Very attractive terms. P.O. Box 1251, Sioux City, Iowa.

**FOR SALE — POULTRY BY-PRODUCTS** processing plant located in non-restricted area in southern Minnesota. Ample supply of raw material. Finance available. Assume S.B.A. loan. Address Ad No. 6747, Feedstuffs, Minneapolis 40, Minn.

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**FOR SALE—ONE HEIL 24-IN. HAMMER-**mill and base less motor, good condition, price $600, f.o.b. Topeka, Kansas. Jones Alfalfa Milling Co., P.O. Box 757, Topeka, Kansas.

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## Douglas Chemical Co. Opens New Division

KANSAS CITY — Douglas Chemical Co., Kansas City, announces the appointment of Warren O. Edmonds as manager of its new Custom Fumigation Division.

Prior to accepting the new post with Douglas, Mr. Edmonds spent four years with American Cyanamid as an agriculturalist engaged in field research and development of agricultural chemicals and grain fumigants. Other experience includes five years as a cereal technologist with Doty Laboratories.

Working with Mr. Edmonds in Douglas' new division, as fumigation specialist, is James W. DeLong. Before accepting his present position with Douglas, Mr. DeLong was associated with Ferguson Fumigants, Inc., of St. Louis, as sales representative and technical advisor.

## Feed Accounts for 67% Of Eastern's Volume

WEST SPRINGFIELD, MASS. — Members of Eastern States Farmers Exchange, a farmer-owned cooperative that grossed $91,601,186 in 1960, bought $54,566,297 worth of feed from their organization during the year—67% of the total distribution dollar. This was reported here recently at the cooperative's 43rd annual meeting.

Eastern States' egg department, which reported on its first full fiscal year, marketed 19,912,632 dozen eggs for its members.

W. D. Milsop, general manager, reported that the cooperative's total business for 1960 exceeded the previous year's by $1,646,048.

Fertilizer distribution set a new record of 165,223 tons. Agricultural chemicals output was up by 7% in dollars over 1959. The three departments within seed service had a combined distribution of $4,535,262. And members purchased $6,499,655 worth of items not included in the feed, fertilizer and seed categories, but grouped under farm supplies.

### Dairy Feeds Lead

Eastern States reported that total dairy feed distribution, which represented 49.2% of total feed tonnage, set an all-time high—8.4% greater than in 1959. Other increases were 19.2% in turkey feeds, 12.9% in beef cattle and swine feed supplements and 6.1% in livestock feeds.

Mildred E. Pike, treasurer, reported that patrons' savings for 1960 amounted to $2,839,778. She said $1 million of the savings will be retained for capital requirements, and the remaining $1,839,778 will be returned to members as cash refunds.

### Egg, Grain Services

Eastern States' new egg department was formed in 1959 by the merger of six New England egg marketing cooperatives. Later, in November, 1960, a Pennsylvania co-op, Butler Egg Auction, voted to join Eastern States.

Another newcomer to Eastern States services, the marketing of members' surplus grain, reached a 500-carload volume in 1960.

Eastern States officials said more than half of all supplies were distributed through wholly owned service centers; the remainder through independent local representatives, most of whom are farmers.

**Cattle and Beef Production, 1960, with Tentative Projections for 1961 and 1962**

| | 1960, as previously reported by USDA | 1960, as revised by USDA | —Tentative projections— for 1961 | for 1962 |
|---|---|---|---|---|
| | millions | | | |
| Cattle inventory, Jan. 1 | 101.5 | 96.2 | 97.1 | 97.8 |
| Cows | (48.6) | (45.9) | (46.3) | (46.8) |
| Calf crop during year | 41.6 | 39.3 | 39.6 | 40.0 |
| Imports | .6 | .6 | .6 | .6 |
| Total supply | 143.7 | 136.1 | 137.3 | 138.4 |
| Cattle slaughter | 25.9 | 25.9 | 26.5 | 27.0 |
| Calf slaughter | 8.5 | 8.5 | 8.5 | 8.5 |
| Death loss, etc. | 4.8 | 4.6 | 4.5 | 4.5 |
| Total disappearance | 39.2 | 39.0 | 39.5 | 40.0 |
| Cattle inventory, Dec. 31 | 104.5 | 97.1 | 97.8 | 98.4 |
| Beef & veal production (million lb.): | | | | |
| Beef | 14,700 | 14,700 | 15,000 | 15,300 |
| Veal | 1,080 | 1,080 | 1,100 | 1,100 |
| Beef and veal per person (lb.): | | | | |
| Beef | 85.0 | 85.0 | 85.2 | 85.4 |
| Veal | 6.0 | 6.0 | 6.2 | 6.1 |

*There Are Some Ifs, But . . .*

## Cattle Industry Has Stability Potential

ITHACA, N.Y. — Beef cattle number projections which indicate increases of 500,000 to 600,000 cows a year, corresponding increases in calf crops, moderate increases in cattle slaughter and inventory increases of only 600,000 to 700,000 head a year for 1961 and 1962 have been issued by Dr. Herrell DeGraff, Babcock professor of food economics, Cornell University, and economic consultant to the American National Cattlemen's Assn.

"These figures should not be regarded as predictions but rather as indications of what may happen if natural or economic disaster does not disrupt the cattle business," says Dr. De Graff.

"The cattle industry now has before it the potentials for a high degree of stability, for at least the year or two ahead. Slaughter marketings and inventory numbers will increase moderately (see table). On the other hand, population continues to increase and consumer demand for beef is moderately rising."

Dr. DeGraff notes that the projection figures "can easily be wrong, because certainly no one can now foresee all of the influences that will affect the cattle industry over the two years (1961 and 1962), or how farmers and ranchers in the aggregate will respond."

### "If" Factors

He says his projections, with the U.S. Department of Agriculture's revised cattle inventory for 1960 as the base, might be thrown off by:

"1. Smaller slaughter than is indicated. But if this should happen, cattle prices to producers should strengthen.

"2. Larger slaughter than estimated. If this should happen, prices would be forced down a bit, but the cattle inventory would decline if there should be a major increase in slaughter.

"3. Cows might be culled more rapidly than is implied in these figures. But this would have to be offset by larger numbers of heifers going into the cow herd (reducing heifer slaughter) or the calf crops would go down.

"4. Drouth might force liquidation, either regionally or nationally. But if this should happen in significant degree, the cattle inventory would go down."

### Price Peak Past

The 1960 inventory figures which USDA revised Feb. 13, 1961, do not change the fact that the peak of price rise in the current cattle cycle is already past, according to Dr. DeGraff. "It is still true that the cyclical peak of prices came in 1958 and 1959," he notes. "Speculative producers should take warning. While the revised supply picture indicates that no price bust is imminent, it is equally obvious that general price increases are not to be expected.

"If the national economy avoids serious slump, if drouth does not strike and if cattle producers can avoid bunched marketings, a much greater stability of cattle prices than most of us had dared to hope for now seems probable for the year or two ahead."

DEHYDRATORS ENTERTAINMENT—During the recent convention of the American Dehydrators Assn. in New Orleans, Consolidated Blenders, Inc., personnel entertained members of the feed industry and other dehydrators at a cocktail party. This party photo shows, from left to right, Joseph Chrisman, executive vice president of the ADA; Mrs. Warren C. Wells, wife of general manager of Consolidated Blenders, Inc., Fremont, Neb.; Congressman Ralph Beermann, Beermann Bros. Dehy, Dakota City, Neb.; Mrs. and Robert D. Wisemiller, sales manager of Consolidated Blenders, Fremont.


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## CHICK HATCH

(Continued from page 1)

incubator count, the hatch increase in March should be something like 26%.

Production of egg-type chicks during the first two months of 1961 totaled 89,265,000—a gain of 32% from the same two months in 1960, but a drop of 16% from January and February of 1959.

A month ago USDA reported that the January, 1961, egg-type hatch was up 41% from the same month a year earlier.

**Regional Data**

Egg-type chick expansion is more pronounced in the west north central, south Atlantic and east south central regions, but all regions show increases in a comparison of February, 1960, hatchings with February, 1961, hatchings. This same observation is true for what is indicated for March hatchings by the March 1 incubator inventory.

USDA says the increases in egg-type chicken eggs in incubators from March 1 of last year to the same date this year are 41%, 42% and 36%, respectively, for the west north central, south Atlantic and east south central regions. For the east north central states the gain is 22%. Other regions indicate gains ranging from 4% to 18%.

**Total Up 12%**

Commercial hatcheries produced a total of 221,341,000 egg- and broiler-type chicks during February, 1961, up 12% from February, 1960. Broiler type chicks accounted for 172,982,000 or about 78% of the total—an increase of 8% from February of last year.

Production of broiler chicks totaled 340,470,000 during January and February, 1961, compared with 318,672,000 during these months in 1960—an increase of 7%.

The March outlook for broiler-type chick hatchings is much like that for egg-type hatchings. Eggs in incubators on March 1, 1961, numbered 16% greater nationally than a year earlier.

Taking January and February together, broiler-type hatchings are up in New England, the west north central states, the south Atlantic region, the east south central states, the west south central states and in the Pacific region. Other regions show declines in a comparison of the two months of 1960 with the same months of 1961.

## POULTS

(Continued from page 1)

than the number of poults hatched in the same month a year earlier. In January of this year the total poult hatch was 65% above the same month in 1960. The cumulative change from last year for both months was 42% —a significant drop from the 65% increase recorded when January stood alone in the new year.

**Eggs in Incubators**

While the hatches already recorded in this new year show a leveling trend, even more significant is USDA's report on turkey eggs in incubators March 1, 1961. There was practically no difference at all in the number of light breed turkey eggs in incubators on that date and on the same day a year earlier. And the March 1, 1961, inventory of heavy breed turkey eggs in incubators was only about 20% larger than a year earlier.

Early this year USDA polled the industry and intentions indicated that the 1961 turkey crop would be about 20% larger than the 1960 crop. Since then, however, there has been much speculation within the industry. Educated guesses have set the expansion rate at anywhere and everywhere between 10 and 20%.

USDA reports that the hatch of heavy white breed poults during February aggregated 2,519,000—up 63% from the total recorded a year earlier. Other heavy breed poults hatched, mostly Broad Breasted Bronze, totaled 6,788,000—a gain of 26%.

A drop of 3% was recorded for the light breed poult hatch of February.

For the first two months of 1961 the hatch of heavy white breed poults was up 70% from a year earlier, other heavy breed poults numbered 35% greater and the hatch of light breeds was up 21%.

All but the New England states, which indicated a drop of about 10%, had more turkey eggs in incubators on March 1, 1960, than a year earlier. West north central states which account for about half of the dominating heavy breed turkey production, reported 11,386,000 heavy breed turkey eggs in incubators March 1, 1961, compared with the year-earlier figure of 9,246,000.

The total of all heavy breed incubated eggs was 25,634,000 on March 1, 1961, about a fifth larger than the count of 21,450,000 eggs on March 1, 1960.

Light breed turkey eggs in incubators March 1, 1961, added up to 1,530,000, just slightly greater than the 1,525,000 counted a year earlier.

## EARNINGS

(Continued from page 1)

the $735,215 earned in the second quarter a year ago.

For the six-month period, net profits were $2,311,946, up substantially from the $1,583,605 earned in the first six months of last year, he said.

Net sales in the second quarter were $65,786,879, as compared with $66,609,783 in the first quarter and with $63,503,759 in the second quarter of 1960. For the six months ended Feb. 28, net sales were $132,396,662, up from the $127,828,776 in sales recorded in the comparable period a year ago.

Per share earnings for the second quarter were 43¢ (based upon 2,792,643 shares outstanding Feb. 28), an increase of 3¢ over the 40¢ per share earned in the first quarter and of 17¢ over the 26¢ per share in the second quarter a year ago.

## ADA Announces New Research Publication

KANSAS CITY — The American Dehydrators Assn. has announced a new publication, the Dehy Review. It will be issued quarterly and mailed to ADA members, research workers, nutritionists and others in the feed industry.

The Dehy Review will feature research articles pertaining to growing and producing dehydrated alfalfa, with emphasis on uses of alfalfa in livestock and poultry feeding. It will also include general reports of interest to dehydrators and the feed industry.

The first issue was mailed recently. Those in the trade who do not receive a copy and who wish to be included on the mailing list may write to American Dehydrators Assn., 430 Board of Trade, Kansas City.

## Object to Wheat Plan

SAN FRANCISCO—The newly organized Grain Growers Association of California contacted Orville Freeman, secretary of agriculture, requesting his intervention to block the shipment of surplus Midwest wheat to California, reported Edwin A. Kauppila, general manager of the association and former manager of Stockton Grain Exchange. The U.S. Department of Agriculture reported its intention to ship 8-10 million bushels of Midwest wheat to the West Coast following a meeting of department officials and representatives of the California warehouse industry.

## Daffin Sales Near $20 Million in '60

HOPKINS, MINN.—Sales of $19,896,641 for the year 1960 were reported in the first annual report of the recently formed Daffin Corp. The Daffin Corp. resulted from a merger last July of the Superior Separator Co. of Hopkins, and the Daffin Manufacturing Co. of Lancaster, Pa.

A new sales record was established as year-end totals showed a slight increase over combined sales for 1959.

While combined consolidated profits were below the levels of 1959, $663,000 compared with $905,000, substantial nonrecurring costs attributable to the merger were absorbed.

"The past year was notable for sound progress," I. A. Daffin, chairman of the board, and C. F. Pierson, president, said in a joint statement. "The company, through new product introduction, increased diversification and expanded territories, has developed a broader base in both the industrial and agricultural equipment fields."

The report noted the introduction of five new products: a new model of the Daffin Feedmobile, a self-propelled compact loader for industrial and farm use; a new box car unloader for grain and granular materials; a new pelleting machine for the feed industry, and a 12-ton super "Power-Box" for spreading manure.

The company also announced the acquisition of the Super-Six line of hydraulically-powered loaders for farm tractors.

**Plant Operation**

Daffin Corp. operates three plants, the main one in Hopkins, which is in the Minneapolis suburban area, and two plants in Lancaster. There are five operating divisions: Daffin manufacturing division, Lancaster, Pa., mobile feed processing equipment; Farmhand division, Hopkins, and Winnipeg, Man., specialized agricultural machinery; Fluidizer division, Hopkins, air conveying system; Superior division, Hopkins, grain, seed and feed processing equipment; international division, Hopkins, world-wide marketing of all company's products.

"As we enter 1961," the report stated, "we find a much stronger tone in the agricultural market. Inventories which have hung over the market are largely liquidated. Industry interest in capital equipment for cost-reduction and labor-saving is more active than it has been for over a year.

"Because of the broader financial base resulting from the merger, the more diversified and balanced product line, a greater strength and depth in experienced personnel, Daffin looks to the future with optimism."

## Ultra-Life Labs Names West Coast Nutritionist

EAST ST. LOUIS, ILL.—Louis R. Vejar of La Puente, Cal., has been appointed by Ultra-Life Laboratories to serve as nutritional consultant for the West Coast and Southwest areas, it was announced by E. L. McKee, president.

Louis R. Vejar

Born and reared on a cattle ranch, Mr. Vejar majored in animal husbandry at California State Polytechnic College, and since graduation has served in several capacities in large livestock operations. In his new post, he will serve some of the largest beef cattle feeding operations in the West, officials said.

As nutritional consultant, Mr. Vejar will work with Ultra-Life customers, aiding them in formulating feeding programs and helping solve special feeding problems.

## McMillen Feed Names Iowa Sales Manager

FT. WAYNE, IND.—The promotion of E. P. (Al) Kovats to the position of sales manager for Iowa has been announced by Central Soya's McMillen Feed division, Ft. Wayne.

E. P. Kovats

Mr. Kovats joined the company in 1944 and has had a broad experience as a Master Mix territory, district, and division manager; as manager of the warehouse division; and most recently as manager of dairy feeds.

In his new position, he will supervise the company's work with feed dealers and farmers in promoting Master Mix feeds and improved management practices.

## Cargill to Mine New Rock Salt Source

MORGAN CITY, LA. — Start of a project to develop a major new supply of rock salt from an historic, untapped source at Belle Isle near here has been announced jointly by Cargill, Inc., Minneapolis-based farm products firm, and Jimmie H. Davis, Louisiana governor.

Erwin E. Kelm, Cargill president, said that following extensive test surveys, a contract has been awarded to Winston Brothers Co., Minneapolis, for construction of a 1,300-ft. shaft and hoist system capable initially of producing 400,000 tons of crushed rock salt annually.

According to F. Clayton Tonnemaker, Cargill salt manager, the new Louisiana product will be "as pure as there is," 99% sodium chloride. He said Cargill will expand its distributing system to cover the entire central and southern areas of the nation accessible by barge to the Mississippi River and its tributaries, the Ohio, Illinois, Missouri and Tennessee rivers. Cargill has distributed the product in the central U.S. for several years, buying it from other mines for snow and ice control on streets and highways, and for use by chemical, meat and textile industries, water softening and animal feeding, he said.

## New Feed Warehouse

MEDFORD, ORE.—Western Farmers' Assn. has announced plans to erect a $70,000 bulk feed warehouse on a three acre site in the Mason-Ehrman tract just north of here.

The warehouse is already under construction and is scheduled to be completed in about 45 days. The structure will have approximately 1,600 sq. ft. of floor area and will contain eight 25-ton bins and an 80-foot high bulk storage bin. Company officials state that they plan to erect an additional $75,000 warehouse on the same tract in about a year.

The new structure will have a capacity of 400 tons of bulk feed, which will be brought by rail from Portland and distributed by truck to members of the cooperative in the southern Oregon area.

Western Farmers came into Medford about a year ago and has been selling sack feed and farm supplies from a rented building.

**ENGINEERING FIRM**

KANSAS CITY—Charles A. Redman, consulting engineer in Kansas City, has announced moving into new quarters with tripled office space to accommodate new personnel as operations increase. The Redman firm is a designer and engineer in the grain and feed industry. Its new address is 2815 East 85th St., Kansas City.

# The FEED MARKET

PRICE QUOTATIONS, MARKET TRENDS
OF PRINCIPAL INGREDIENTS

### A AND D FEEDING OIL

**Boston:** Demand and supply steady; 400 D, 3,000 A, 19½¢ lb; 300 D, 3,000 A, 19¢; 300 D, 2,250 A, 17½¢; 300 D, 1,500 A, 16¢; 300 D, 750 A, 14¢; 75 D, 750 A, 13½¢.

**Chicago:** Demand fair; trend steady; supply ample; straight A feeding oil, with 10,000 units vitamin A per gram, 7@7½¢ a million units of vitamin A, l.c.l., packed in 55 gal. drums, f.o.b. Chicago, drums included.

**Minneapolis:** Demand fair; supply ample; 10,000 A 31¢ lb.; 300 D, 2,250 A 17½¢ lb.; 300 D, 1,600 A 16¢ lb.; 300 D, 750 A 15¾¢ lb.

### ALFALFA MEAL

**Philadelphia:** Demand and supply fair; 17% dehydrated $57.60.

**Omaha:** Demand slow; trend steady; supply ample; 17% dehydrated, 100,000 A units, bulk pellets $46, sacked meal $51, Omaha basis.

**Los Angeles:** Demand steady; trend firm; supply adequate; dehydrated meal, 17% protein, 100,000 A $51@52, nominal; dehydrated pellet meal, 17% protein, 100,000 A $53@55; suncured meal, 15% protein $44@46; suncured crumbles, 15% protein $46@47.

**Cincinnati:** Demand poor; trend steady; supply adequate; 17% dehydrated, 100,000 vitamin A $56@57.

**St. Louis:** Demand slow; trend steady; supply limited; suncured, 13% fine, sacked $48; dehydrated, 17%, 100,000 A pellets, demand fair, trend easy, supply ample, bulk $49.

**Boston:** Demand and supply steady; dehydrated 17%, pellets $60; suncured, 13% $49.50 sacked.

**Portland:** Demand slow; supply ample; trend unchanged; $45@73, sacked, depending upon type.

**Memphis:** Demand poor; trend steady; supply ample; dehydrated, 17% protein, guaranteed 100,000 units vitamin A $50.60; reground pellets $53.60.

**Ft. Worth:** Demand fair for dehydrated, slow for suncured; supply sufficient; sacked; old crop, dehydrated, 17%, 100,000 A $57.10, truck or rail; new crop, Texas $55; suncured: 13% ¼-in. grind No. 1 $47, truck; 15% fine ground, dry $49, with 2% fat added $51, rail or truck.

**Minneapolis:** Prices steady; 17% dehydrated, 100,000 units vitamin A reground pellets $51, delivered Minneapolis; oiled reground pellets $53.

**Chicago:** Demand less aggressive; trend steady; supply ample; dehydrated, 17% protein, 100,000 units vitamin A $50.50@52.

**Buffalo:** Demand fair to poor; trend steady; supply fair; $44.10, sacked, Boston.

**Kansas City:** Demand fair; trend steady; supply ample; 17% dehydrated alfalfa, 100,000 A, pellets $47@48, reground pellets $48@49; 18% dehydrated alfalfa, 125,000 A, pellets $48@51, reground pellets $50@52; 20% dehydrated alfalfa, 150,000 A, pellets $51.50@57; reground pellets $52.50@58; suncured alfalfa, demand slow, supply ample, 13% pellets $32@34, No. 1 ¼-in. $38, sacked.

### ANIMAL FAT (STABILIZED)

**Louisville:** Demand and supply good; trend up; bleachable white 8¢ lb.; white tallow 7⅝¢ lb.; yellow grease 7¢ lb.; all in tanks.

**Boston:** Demand active; supply fair; tallow 7¾¢ lb.; yellow grease 7¼¢ lb.

**San Francisco:** Demand good; supply ample; bleachable fancy 7¾¢ lb.; yellow grease 6¾¢ lb.

**Ogden:** $7 cwt.

**Atlanta:** Demand good; trend steady; supply limited; 6¼¢ lb., Alabama and Georgia processing plants.

**Ft. Worth:** Demand excellent; supply tight; prime tallow, tank cars 7¼¢ lb., drums 8¾¢ lb., f.o.b. north Texas packing plants with returnable drums.

**St. Paul:** Market strength maintained primarily by heavy exports for feed and soap; bleachable fancy up ⅝¢ from last week to 7⅝¢ lb., f.o.b. producer's plant.

**Chicago:** Demand good; trend firm; supply fair; tank truck or carlots, bleachable fancy tallow $7.25 cwt.; yellow grease $6.50@6.62 cwt.

### BARLEY FEED

**Boston:** Demand and supply light; $45.50 sacked.

**Los Angeles:** Demand slow; trend easier; supply adequate; standard rolled $3.03 cwt., standard ground $3.03 cwt., both sacked.

**Philadelphia:** Demand slow; supply fair; $42.50.

**San Francisco:** Demand fair; supply ample; rolled $61, ground $60.

**Ogden:** Supply ample; rolled $45@46, whole $40@41.

**Milwaukee:** Demand limited; trend unchanged; supply fair; feed barley $6¢ bu., bulk; barley feed $35.50 ton, sacked; ground feed barley $42.50 ton, sacked.

**Portland:** Demand slow; trend barely unchanged; supply adequate; $45.

**Baltimore:** Demand quiet; trend steady; supply fair; $44.50, sacked.

**Chicago:** Demand and supply fair; trend firm; $34, sacked.

### BENTONITE (SODIUM)

**Cincinnati:** Demand steady; supply adequate; f.o.b. Cincinnati, minimum 20 ton carlots: 80 granular $31.50, less than carlots $40; 20 mesh fine carlots $31.50, less than carlots $40.

**Chicago:** Demand fair; supply ample; trend steady; f.o.b. Wyoming and South Dakota shipping points: 200 mesh $14 and net $13.75; fine granular (80 to 100 mesh) $14.25 and net $14; granular, 30 mesh $16.60 and net $16.25.

NOTE: Quotations on feed ingredients shown in these and adjoining columns are wholesale prices, per ton, bulk, for prompt delivery, unless otherwise noted. They are the latest quotations available from Feedstuffs correspondents and are not necessarily those in effect on date of publication. The prices represent fair average trading values and do not necessarily represent extreme low or high levels at which individual sales might have occurred. A descriptive summary of supply and demand factors prevalent in the feed market appears on page 2.

### BLOOD FLOUR

**Louisville:** Demand fair; trend firm; supply good; $92.50@95, sacked.

### BLOOD MEAL

**Los Angeles:** Demand slow; trend unchanged; supply adequate; $5.50 a unit of ammonia, sacked.

**Ogden:** Supply good; $110.

**Omaha:** Demand good; trend strong; supply short; 80% $120, sacked, Omaha.

**San Francisco:** Demand and supply fair; $6.50 a unit of ammonia, sacked.

**Louisville:** Demand good; trend steady; supply normal; $92.50@95, sacked.

**Portland:** Demand good; trend steady; supply ample; $120, sacked.

**Chicago:** Demand quiet; trend easier; supply fair; 80% protein $125, sacked.

### BONE MEAL (STEAMED)

**Portland:** Demand fair; supply ample; trend fully steady; $94.50@96, sacked.

**Louisville:** Demand dull; trend steady; supply light; $105@110, sacked.

**Boston:** Demand and supply steady; $105.

**San Francisco:** Demand good; supply ample; $75, sacked.

**Cincinnati:** Demand fair; trend easy; supply ample; $90, sacked, Cincinnati.

**Los Angeles:** Demand fair; trend steady; supply ample; imported $80.75, 20 ton lots, sacked.

**Ft. Worth:** Demand fair; supply light; $100, sacked, f.o.b. Ft. Worth, local manufacture.

**Chicago:** Demand and supply fair; trend steady; $100, sacked.

**Buffalo:** Demand and supply fair; trend steady; $105, sacked.

### BREWERS DRIED GRAINS

**Los Angeles:** Demand good; trend steady; supply limited; $51.50.

**Philadelphia:** Demand and supply fair; $52.25.

**San Francisco:** Demand fair; supply ample; $51, sacked.

**Cincinnati:** Demand poor; trend steady; supply adequate; $50.

**Louisville:** Demand slow; trend weak; supply good; $50, sacked, off $2.

**Milwaukee:** Demand limited; trend weaker; supply fair; $44 bulk, $53 sacked.

**St. Louis:** Demand slow; trend easy; supply ample; $42.

**Boston:** Demand slow; supply ample; 26% $51.

**Ft. Worth:** Demand slow; supply sufficient; 26% protein $56.90, sacked.

**Chicago:** Demand moderate; trend steady; supply ample; 26% protein $40@41.

**Buffalo:** Demand fair; trend lower; supply good; $49.50, Boston.

### BREWERS DRIED YEAST

**Louisville:** Demand slow; trend steady; supply good; 10@10½¢ lb., sacked.

**Boston:** Demand and supply steady; 11¢ lb.

**San Francisco:** Demand fair; supply good; 10¢ lb., sacked.

**Cincinnati:** Carlots 11¢ lb.; 5 ton lots 11¢ lb.; ton lots 11½¢ lb.; all sacked.

**Los Angeles:** Demand good; trend steady; supply limited; 10¢ lb., 5 ton lots; 11¢ lb., 1 ton lots; 12¢ lb., less than ton lots; all sacked.

**Omaha:** Demand good; trend strong; supply fair; 10¢ lb.

**Portland:** Demand good; supply adequate; trend unchanged; 13¢ lb.

**Chicago:** Demand fair; trend steady; supply ample; 9½@10¢ lb., carlots, sacked; 9½@12½¢ lb., l.c.l.

**Milwaukee:** Demand fair; trend steady; supply ample; 10½@12½¢ lb., ton lots, sacked.

**St. Louis:** Demand fair; trend firm; supply ample; 9½@10¢ lb., carlots, sacked; 10½¢ lb., ton lots; 11½¢ lb., less than ton lots.

**Buffalo:** Demand fair; trend steady; supply ample; $8.75 cwt.

### BUTTERMILK (CONDENSED)

**San Francisco:** Demand fair; supply good; $5 cwt., drums.

**Los Angeles:** Demand and trend steady; supply adequate; 5½¢ lb., 100 lb. lots, in barrels.

**Ogden:** Supply good; $4.40 cwt., drum.

**Philadelphia:** Demand slow; supply fair; $4.25 cwt.

**Louisville:** Demand dull; trend steady; supply nil; $4@4.25 cwt., in 500 lb. paper drums.

**Boston:** Demand steady; supply light; 4¼¢ lb.

**Chicago:** Demand slow; trend firm; supply ample; 500 lb. barrels $3@3.25 cwt.

### CALCITE CRYSTALS AND FLOUR

(All prices net, sacked, including freight)

**New York:** Crystals $16.28, flour $10.28.
**Buffalo:** Crystals $17.11, flour $11.11.
**Toledo:** Crystals $18.96, flour $12.96.
**Boston:** Crystals $17.63, flour $11.63.
**Lime Crest, N. J.:** Crystals $11.50, flour $8.50.

### CALCIUM CARBONATE

**Cincinnati:** Demand fair; trend steady; supply adequate; $7@7.50 cwt.

**Los Angeles:** Demand fair; trend steady; supply adequate; flour $9.85, 20 ton cars; meal $10.20, 20 ton cars; both sacked.

**Chicago:** Demand fair; trend steady; supply ample; fine grind, plain, 100 lb. bags $9.84; bulk, in hopper cars $7.54; bulk in boxcars $8.04; granular grind $1 premium.

**Minneapolis:** Fine grind, 50 lb. bags $13.75; 100 lb. bags $13; bulk, boxcar $11.50; bulk, hopper $11; coarse grind $1 premium, delivered Minneapolis.

### CHARCOAL

**Los Angeles:** Demand slow; trend unchanged; supply adequate; hardwood poultry: $156, less than ton lots; $144.40, ton lots; both sacked.

**Boston:** Demand slow; supply light; granular No. 6 $110.

**San Francisco:** Demand steady; supply ample; $141, sacked.

**Chicago:** Demand fair; trend firm; supply fair; 50 lb. multiwalls $110.

### COCONUT OIL MEAL

**Los Angeles:** Demand and trend steady; supply ample; copra cake $63.

**Portland:** Demand fair; trend higher; supply adequate; $63.20.

**San Francisco:** Demand fair; supply ample; solvent $52, expeller $69.

### COD LIVER OIL (FORTIFIED)

**Boston:** Demand and supply steady; 300 D, 3,000 A 20¢ lb.; 600 D, 2,250 A 18½¢; 300 D, 2,250 A 18¢; 300 D, 1,500 A 16½¢.

### CONDENSED FISH SOLUBLES

**Los Angeles:** Demand good; trend steady; supply limited; 3¢ lb.

**Boston:** Demand good; supply adequate; $37.50@40.

### CORN GLUTEN FEED AND MEAL

(All quotations for all cities are bulk basis, sacked basis $6 more)

**Minneapolis:** Feed $45.70, meal $74.70.
**Atlanta:** Feed $49.10, meal $78.10.
**Birmingham:** Feed $46.90, meal $75.90.
**Boston:** Feed $50.60, meal $79.60.
**Chicago:** Feed $39, meal $68.
**Cleveland:** Feed $47, meal $76.
**Denver:** Feed $49.20, meal $78.30.
**Ft. Worth:** Feed $47.80, meal $76.80.
**Indianapolis:** Feed $44.25, meal $73.25.
**Kansas City:** Feed $39, meal $68.
**Louisville:** Feed $45.55, meal $74.55.
**New York:** Feed $50.20, meal $79.20.
**New Orleans:** Feed $49, meal $78.
**Norfolk:** Feed $49.60, meal $78.60.
**Philadelphia:** Feed $49.80, meal $78.80.
**St. Louis:** Feed $39, meal $68.

### CORN OIL MEAL

**Cincinnati:** Demand fair; trend steady; supply adequate; $46.

**Louisville:** Demand slow; trend steady; supply light; $56.55, sacked.

### COTTONSEED OIL MEAL

**St. Louis:** Demand slow; trend steady; supply ample; solvent $55.

**San Francisco:** Demand fair; supply ample; 41% $59.20, 44% $63.20.

**Cincinnati:** Demand poor; trend steady; supply adequate; $59.50.

**Ogden:** Supply good; 41% $60@62.

**Philadelphia:** Demand and supply fair; $67.50 in 30 ton cars.

**Wichita:** Demand fair; supply ample; 41% old process $67, sacked.

**Los Angeles:** Demand and trend steady; supply adequate; $55@57.

**Omaha:** Demand slow; trend easy; supply ample; 41% solvent $59.80, delivered Omaha.

**Louisville:** Demand fair; trend easy; supply normal; new or old process $60.90, sacked, down 50¢.

**Boston:** Demand fair; supply adequate; $68.50.

**Portland:** Demand fair; trend steady; supply adequate; $69.20.

**Memphis:** Demand poor; trend steady; supply ample; prime 41% protein, old process $51.50; new process, 41% protein, none available.

**Atlanta:** Demand fair; trend weak; supply good; 41% $56 Georgia, $63 Alabama, $49 Mississippi, $51 Tennessee producing mills.

**Ft. Worth:** Demand slow; supply adequate; 41% old process $58@60, f.o.b. mills Ft. Worth; carlots, solvent 2% fat added $57.60, delivered Ft. Worth; pellets $2 additional; hulls $14.50@15.50.

**Chicago:** Demand and supply fair; trend firm; Memphis basis: hydraulic $54.50, solvent $55.50.

**Buffalo:** Demand fair; trend steady to lower; supply good; $72.50, sacked, Boston.

**Kansas City:** Demand slow; trend steady; supply ample; 41% old process $51@51.50; solvent process $51@51.50, Memphis.

### CURACAO PHOSPHATE

**New York:** Minimum 14% phosphorus $43.50 sacked, $40.50 bulk, f.o.b. New Orleans, Jacksonville and Philadelphia.

### D ACTIVATED ANIMAL STEROL (POWDERED)

**Cincinnati:** Demand fair; trend steady; supply ample; 1,500 ICU 11@12¢ lb.; 3,000 ICU 10¢ lb., warehouse.

**Kansas City:** Demand fair; trend steady; supply ample; 1,500 ICU 9⅝¢ lb.; 3,000 ICU 11¢ lb.

### D ACTIVATED PLANT STEROL (POWDERED)

**Chicago:** Demand fair; supply ample; 4,000,000 U.S.P. units per lb., 16¢ lb. in ton lots, less than ton lots 17¢ lb.; 12,000,000 units per lb., 5 tons to a carload 28¢ lb., ton lots and less 30¢ lb.

### DEFLUORINATED PHOSPHATE

**Coronet, Fla.:** Minimum phosphorus 18%, minimum calcium 31%, maximum calcium 34%, maximum fluorine .18%; guaranteed uniform analysis; carload $61.25, sacked, 100 lb. multiwall bags, bulk $58.25; truck load $62, sacked, in 100 lb. multiwall bags, bulk $59, f.o.b. Coronet, Fla.

**Tupelo, Miss.:** Minimum phosphorus 14%, minimum calcium 28%, maximum fluorine .14% $53, f.o.b. Tupelo in 100 lb. multiwall bags, $49 bulk.

**Wales, Tenn.:** Minimum phosphorus 18%, minimum calcium 33%, maximum 36%, maximum fluorine .18% $66 (or $3.67 per unit of P), f.o.b. Wales in 100 lb. multiwall bags, $3 less in bulk.

**Butte, Mont.:** Minimum phosphorus 18%, minimum calcium 32%, maximum calcium 36%, maximum fluorine .18% $81 (or $4.50 per unit of P), f.o.b. Butte, 100 lb. multiwall bags; bulk $78; truck lots of less than 10 tons $10 more, bagged or bulk.

**Houston:** Minimum phosphorus 19%, minimum calcium 32%, maximum calcium 35%, maximum fluorine .19% $69.35 net ton, f.o.b. Houston, 100 lb. multiwall bags; $66.35 bulk ($3.65 per unit of P).

**Cincinnati:** 18% phosphorus, carlots $74.30, ton lots $84.30; 14% phosphorus, carlots $62.50, ton lots $72.50, f.o.b. Cincinnati.

**Portland:** Demand fair; supply ample; trend unchanged; $93.50@95 for product carrying a minimum of 18% phosphorus, 31.5% calcium and a maximum of 0.1% fluorine; $92@93.50, dock, for a minimum of 10 ton lots.

### DICALCIUM PHOSPHATE

**Trenton, Mich.:** 18½% P $33, bulk, boxcar/hopper car; $36, bagged, in carloads or truck loads; $96, bagged, in less than carload lots; 21% P, $94.05, bulk, boxcar/hopper car; $97.65, bagged, in carloads or truck loads; $107.65, bagged, less than carload; all prices f.o.b. Trenton, freight equalized with nearest producing point.

**Chicago:** Bulk, carlots and truck loads, 18½% phosphate $78 and 21% phosphate $89; packed in 100 lb. papers, 10 tons or more, 18½% phosphate $81 and 21% $92; lesser quantities, 18½% phosphate $91 and 21% $102; above prices, per ton, f.o.b. Chicago Heights, Ill., or Nashville, Tenn.

**Bonnie, Fla.:** Minimum phosphorus 18½%, granular, $81 (or $4.38 unit of P), freight equalized from nearest producing point, carload basis; bulk carloads $3 less; in truck loads of less than 10 tons, $10 more. Western slope prices, for delivery at established railroad stations and by truck at regular feed mixing plants: California, Arizona, Nevada and Utah, $99.90; Washington, Oregon, Montana and Idaho, $107.15; bulk carloads $3 less; truck loads less than 10 tons, $10 more.

**Columbia, Tenn.:** Minimum phosphorus 18.5%, minimum calcium 24% $81, f.o.b. Columbia, in 100 lb. multiwall bags; freight equalized with producing point, carload basis; bulk $3 ton less.

**Texas City, Texas:** Minimum phosphorus 18.5%, minimum calcium 20%, maximum calcium 23%, maximum fluorine .12%; carload and truck load $75.50, sacked in 100 lb. multiwall bags, bulk $72.50, f.o.b. Texas City.

**Cincinnati:** 18½% phosphorus $88.80, bagged in carloads; $96.70, bagged in ton lots, f.o.b. Cincinnati; $81, f.o.b. producing points.

### DISTILLERS DRIED GRAINS

**Cincinnati:** Demand poor; trend steady; supply adequate; $64@65.

**Buffalo:** Demand and supply fair; trend lower; $64, Boston.

**Philadelphia:** Demand fair; trend unsettled; supply light; dark $68.50.

**San Francisco:** Demand fair; supply ample; solubles $79, sacked.

**Louisville:** Demand dull; trend easy; supply good; lower prices anticipated for April; bourbon grains: light $66, dark $67, solubles $73; all sacked.

**Boston:** Demand poor; supply ample; $62@63.

### DRIED BEET PULP

**Milwaukee:** Demand limited; trend firm; supply fair; plain $53.25, molasses $54.25, both Chicago basis.

**Boston:** Demand fair; supply adequate; $62@63, sacked.

**Buffalo:** Demand and supply fair; trend higher; $62.50, sacked, Boston.

**Ogden:** Supply ample; $45.

**Los Angeles:** Demand and trend steady; supply adequate; $49.90@50.20.

**San Francisco:** Demand good; supply fair; $44.80.

**Portland:** Demand fair; trend steady; supply ample; $47.58, sacked.

**Atlanta:** Demand fair; trend steady; supply limited; $62.50, sacked, delivered.

**Ft. Worth:** Demand slow; offerings light; plain $62.20, sacked, 50 lb. bags.

### DRIED BUTTERMILK

**San Francisco:** Demand fair; supply ample; 13¼¢ lb., sacked.

**Los Angeles:** Demand fair; trend steady; supply ample; 13¾@14¢ lb., sacked.

**Ogden:** Supply good; $17.25 cwt.

**Milwaukee:** Demand and supply limited; trend firm; $11.50 cwt.

**Louisville:** Demand slow; trend easy; supply normal; 11½@12¢ lb., sacked.

**Buffalo:** Demand fair; trend steady; supply ample; $10.98 cwt.

**Chicago:** Demand slow; trend firm; supply adequate; medium acid $10.50 cwt., sweet cream $10.50 cwt., both sacked.

**Boston:** Demand light; supply short; 14¢ lb., nominal.

### DRIED CITRUS PULP

**Boston:** Demand slow; supply fair; $58.60, sacked.

**Buffalo:** Demand fair to poor; trend low-

er; supply adequate; $39.50, sacked, f.o.b. Florida points.

**San Francisco:** Demand and supply fair; meal $48, sacked.

**Los Angeels:** Orange pulp $43, lemon pulp $43, both nominal.

**Atlanta:** Demand fair; trend weak; supply good; pulp $37.50@40, meal $35, both sacked and f.o.b. Florida processing plants.

### DRIED SKIM MILK

**Milwaukee:** Demand and supply limited; trend firm; $12 cwt.

**Philadelphia:** Demand slow; supply fair; $13 cwt.

**Omaha:** Demand and trend good; supply short; 12¢ lb.

**Cincinnati:** Demand fair; trend steady; supply adequate; 12@13¢ lb., sacked.

**Chicago:** Demand quiet; trend firm; supply fair; $10.50@10.85 cwt., sacked.

**Buffalo:** Demand good; trend stronger; supply ample; spray $11.55 cwt.

**San Francisco:** Demand and supply fair; 14½¢ lb., sacked.

**Ogden:** Supply ample; $15.15 cwt., sacked.

**Los Angeles:** Demand slow; trend steady; supply adequate; 14¢ lb., less than ton lots; 13¾¢ lb., ton lots; both sacked.

**Louisville:** Demand fair; trend easy; supply normal; 11½@12¢ lb., sacked.

**Boston:** Demand and supply good; 12½¢ lb.

**Minneapolis:** Last week's rise created primarily by announcement of new support level holding at $12@12.25 cwt.

### DRIED WHEY

**Boston:** Demand and supply steady; 5@5½¢ lb.

**Cincinnati:** Demand fair; trend steady; supply adequate; $5.75 cwt., sacked.

**Chicago:** Demand moderate; trend steady; supply fair; $4.50@4.85 cwt., sacked.

**Philadelphia:** Demand slow; supply fair; $6.25 cwt.

**San Francisco:** Demand steady; supply good; $5.25 cwt., sacked.

**Ogden:** Supply good; $6.80 cwt., sacked.

**Los Angeles:** Demand fair; trend steady; supply adequate; $5.18 cwt., carloads; $5.35 cwt., l.c.l.; both sacked.

**Omaha:** Demand fair; trend improving; supply good; $5.50 cwt.

**Louisville:** Demand fair; trend easy; supply normal; 5½@6¢ lb., sacked.

**Ft. Worth:** Demand fair; supply adequate; carlots, standard $5, sacked, delivered Ft. Worth; ton lots $5.25, f.o.b. warehouse Ft. Worth.

**Portland:** Demand fair; supply adequate; trend unchanged; $5.60 cwt., sacked.

**Kansas City:** Demand fair; trend steady; supply adequate; regular or partially delactosed $5.25 cwt., sacked.

### FEATHER MEAL (HYDROLYZED)

**Boston:** Demand and supply fair; $75, sacked.

**Los Angeles:** Demand good; trend steady; supply limited; $1 unit of protein, sacked.

**San Francisco:** Demand and supply fair; $89.

**Atlanta:** Demand good; trend very strong; supply very limited; $70, f.o.b. Alabama and Georgia processing plants.

**Ft. Worth:** Demand fair; supply sufficient; 85% protein, $65@67.50 bulk; $67.50@70 sacked, delivered Ft. Worth.

### FISH MEAL

**Boston:** Demand active; supply limited; 57% $97@98.

**Milwaukee:** Demand limited; trend firmer; supply fair; $120, sacked, Chicago basis.

**Portland:** Demand good; trend steady; supply adequate; $1.70 a protein unit, sacked.

**Louisville:** Demand dull; trend steady; supply light; $100@105, sacked.

**Cincinnati:** Demand fair; trend steady; supply adequate; $98.70.

**Chicago:** Demand slackened somewhat; supply fair; trend firm; sacked: menhaden, East Coast $100@102, Gulf $100@102; menhaden scrap, East Coast $96@98, Gulf $96@98; Canadian herring meal $1.60 a unit of protein.

**Buffalo:** Demand fair; trend higher; supply very light; 60% protein menhaden $112.50 bulk, $117.50 sacked.

**San Francisco:** Demand slow; supply ample; $1.60 a unit of protein.

**Ogden:** Supply ample; $1.10 a unit, f.o.b. Coast; 65% $115@123.

**Omaha:** Demand good; trend strong; supply fair; 60% menhaden $115, f.o.b. Omaha.

**Los Angeles:** Demand steady; trend firm; supply light; local production, 60% protein $1.80 a unit, sacked.

**Atlanta:** Demand good; trend steady; supply very limited; 60% menhaden $95@100, sacked, f.o.b. Atlantic and Gulf ports.

**Ft. Worth:** Demand good; supply limited; sacked: 65% protein Peruvian, nominal $106; 60% protein menhaden $103, delivered Ft. Worth.

**Minneapolis:** Market generally steady to stronger; Canadian herring up another 5¢ unit to $1.55, West Coast, subject to production; 60% West Coast blended steady at $125, sacked, delivered.

### HAY

**Cincinnati:** Demand poor; trend steady; supply adequate; by truck—second cutting alfalfa $35; No. 1 timothy $25; red clover $30; No. 1 timothy and clover mixed $30; straw $18.

**Philadelphia:** Demand slow; supply light; $25.50.

**Wichita:** Demand good; supply sufficient; prairie $24@27, alfalfa $32@34, baled.

**Ogden:** Supply ample; $25 ton in the barn.

**Los Angeles:** Demand moderate; trend steady; supply ample; U.S. No. 1 $32@34, new crop; U.S. No. 1 $30@32, old crop; U.S. No. 2 leafy $28@29; U.S. No. 2 green $28@29; U.S. No. 2 $26@27.

**Portland:** Demand dull; supply amnle; trend unchanged; No. 2 green alfalfa $30@32, baled, Portland-Seattle.

**Louisville:** Demand dull; trend steady; supply ample; local hay, any variety, No. 1 $30, No. 2 $28; lespedeza $23@25; straw $18@20.

**Boston:** Demand and supply steady; No. 2 timothy $39@41.

**Ft. Worth:** Demand fair; offerings liberal; carlots, baled, No. 1 alfalfa $38@42; No. 2 $36@40, delivered Texas common points.

### HOMINY FEED

**Cincinnati:** Demand poor; trend steady; supply adequate; $42@43.

**Boston:** Demand slow; supply ample; $47.50.

**Kansas City:** Demand slow; trend steady; supply adequate; yellow $34@34.50, white $33@33.50.

**Chicago:** Demand fair; trend easier; supply ample; $39.

**Buffalo:** Demand fair to poor; trend lower; supply adequate; $47.50, Boston.

**Louisville:** Demand dull; trend easy; supply light; $47.50, sacked, down $1.

**Milwaukee:** Demand and supply fair; trend firm; $42.50 bulk, $47.50 sacked, both Chicago basis.

**St. Louis:** Demand slow; trend easy; supply ample; yellow $40.50.

**Memphis:** Demand poor; trend weak; supply ample; white $39, yellow $39.

### LINSEED OIL MEAL

**Cincinnati:** Demand poor; trend lower; supply adequate; new process $55.50, old process $61, Minneapolis.

**Minneapolis:** Steady to slightly stronger; 34% solvent $55.50, 32% expeller $61.50.

**Chicago:** Demand and supply fair; trend slightly easier; Minneapolis basis: solvent $55, expeller $62.

**Kansas City:** Demand slow; trend steady; supply ample; solvent process $54.50@55; old process $60.50@61, Minneapolis.

**Philadelphia:** Demand and supply fair; 34% $73.

**Wichita:** Demand fair; supply ample; 34% $75, sacked.

**San Francisco:** Demand fair; supply ample; $72.

**Los Angeles:** Demand fair; trend steady; supply ample; local production, 31% protein $71.

**Omaha:** Demand fair; trend steady; supply ample; 34% solvent $60.80; 32% old process $66.30, Omaha basis.

**Louisville:** Demand slow; trend weak; supply fair; old process $78.50, sacked; new process $73, sacked; both down 30¢.

**Boston:** Demand light; supply spotty; 34% $74.20.

**Milwaukee:** Demand and supply fair; trend weaker; expeller $72.50, solvent $67, both sacked, Chicago basis.

**Portland:** Demand dull; trend steady; supply adequate; $86, sacked.

**Ft. Worth:** Demand slow; supply sufficient; 34% protein, extracted $72.20, March-June.

### LIVER & GLANDULAR MEAL

**Omaha:** Demand slow; trend slow; supply good; 65% $165, sacked, Omaha.

### MALT SPROUTS

**Cincinnati:** Demand fair; trend steady; supply adequate; No. 1 $47.

**Chicago:** Demand slow; trend easier; supply ample; No. 1 $40.

**Milwaukee:** Demand good; trend weaker; supply limited; $39.50 bulk, $47 uneven bags, $48 even bags.

**Boston:** Demand and supply limited; $48, nominal.

### MEAT AND BONE MEAL

**Louisville:** Demand fair; trend firm; supply good; $90@95, sacked.

**Omaha:** Demand good; trend improving; supply ample; $90.

**St. Paul:** Supply ample; demand slow; price down $2 from last week to $92@96, sacked.

**San Francisco:** Demand good; supply fair; $1.80 a unit of protein.

**Cincinnati:** Demand better; trend firmer; supply fair; 50% meat and bone scraps $81, Cincinnati.

**Chicago:** Demand slower; trend easier; supply fair; 50% protein $90, sacked.

**Buffalo:** Demand light; trend easy; supply ample; 50% meat scraps $90 bulk, $95 sacked.

**Ogden:** Supply ample; 50% protein $95, sacked.

**Wichita:** Demand heavy; supply insufficient; 50% $95, sacked, f.o.b. plant.

**Los Angeles:** Demand and trend steady; supply tight; 50% protein $1.80@1.85 a unit.

**Boston:** Demand and supply steady; $1.50 a protein unit; converted, 50% $87.50.

**St. Louis:** Demand good; trend easy; supply adequate; $86.

**Portland:** Demand good; trend higher; supply tight; $100.50, sacked.

**Ft. Worth:** Demand good; supply fair; meat and bone, 50% $82.50 bulk, $87.50 sacked, f.o.b. Ft. Worth.

### MEXICAN PHOSPHATE

**Brownsville, Texas:** Mexican natural ground rock, 13% phosphorus $39 sacked, bulk $2 less; 14% $43 sacked, bulk $2 less.

### MILLFEED

**Minneapolis:** Sacked bran up 50¢ to $41@41.50, bulk $36@36.50; sacked middlings down 50¢ to $39@39.50, bulk $33; red dog steady to 50¢ lower at $42.50.

**Wichita:** Demand fair; supply adequate; basis Kansas City: bran $36.75@37.25, shorts $36.75@37.25, sacked, unchanged from preceding week; bulk middlings $32@32.50, up $2 on a good demand.

**Ft. Worth:** Demand improving; supply sufficient; bran, bulk $40, burlaps $43.50@44; bulk shorts $41, burlaps $44.50@45; bulk middlings $40.50, delivered Texas common points; bulk bran $1.50 higher, sacked bran unchanged to 50¢ higher; bulk shorts $2.50 higher, sacked $1@1.50 higher and middlings $2 higher compared with previous week.

**Chicago:** Demand improved; trend higher; supply moderate; standard bran $38.50, standard midds. $39.50, red dog $41.

**St. Louis:** Demand slow; trend firm; supply adequate; sacked bran $42, shorts $41.50; bulk bran $36.50, middlings $38.

**Cincinnati:** Demand poor; trend higher; supply adequate; bran $44.50, middlings $45.

**Omaha:** Demand and trend steady; supply ample; sacked bran $37.50, sacked gray shorts $37.50, bulk standard midds. $34, all Omaha basis.

**Boston:** Demand slow; supply adequate; bran $49.50, middlings $50.50.

**Buffalo:** Millfeeds enjoyed a flash of trading but demand failed to follow through and prices backed down from their tops; trading then turned extremely quiet; this is the first time in many years that there hasn't been any seasonal rush to own dairy feeds and chart-wise, as a result, prices are about $10 below the level of other years; one spokesman said, because of the time element, "if we don't get an upturn in the next three weeks we won't get any at all"; sacked differential on bran and middlings held steady at $5.50 in further reflection of the lack of demand; bulk and sacked bran ended $1.50@2.50 higher; bulk and sacked middlings and red dog advanced $1@2; quotations March 22: bulk bran $40@41.50, sacked $45.50@47; bulk middlings $40.50@42, sacked $46@47.50; bulk red dog $41.50@44, sacked $47@48.

**Philadelphia:** Demand and supply fair; trend very unsettled; bran $49, standard midds. $49.50, red dog $51.50.

**Louisville:** Demand slow; trend very steady; supply good; no changes over the week, very unusual; bran $46.50, mixed feed $47.30, shorts $48.30, all sacked.

**Memphis:** Demand fair; trend steady to higher; supply ample; wheat bran $38.80, gray shorts $40.80, standard midds. $39.80.

**Portland:** Demand slow; supply adequate; trend unchanged; $37@37.50.

**Ogden:** Supply good; to Utah: red bran and mill run $39, middlings $44.

**Los Angeles:** Demand slow; trend easier; supply ample; standard millrun $42.50@43.50, red bran $48@50.

**San Francisco:** Demand good; supply fair; millfeed $44.50, red bran $47.50.

### MINERAL FEED

**Wichita:** Demand fair; supply sufficient; all-purpose with iodine, 50 lb. blocks $97.50, 100 lb. bags $92.50, f.o.b. plant.

**Sioux City:** 50 lb. mineral blocks 8.2% phosphorus $92; 7.5% phenothiazine sheep mineral blocks $4 each.

**San Francisco:** Demand steady; supply good; all-purpose with iodine $70, sacked.

**Portland:** Demand fair; supply adequate; trend unchanged; $44@45.50.

**Ogden:** Supply good; $113 ton in 50 lb. blocks; $103 ton, granular, 50 lb. bags.

**Ft. Worth:** Demand fair; supply adequate; all-purpose granules $85, block $95; mineral phosphorus granules $106, block $113; cattle-sheep mineral 7% phosphorus granules $97, block $105; hog mineral phosphorus 3½% granules $87, phosphorus 2% $72 (all in 50 lb. paper bags).

### MOLASSES

**Minneapolis:** Market still unchanged; blackstrap $33, tank truck, delivered; beet $30, blend $31.50.

**Buffalo:** Demand fair; trend steady; supply adequate; 16½¢ gal., f.o.b. Albany.

**Ft. Worth:** Demand fair; supply sufficient; blackstrap 13¼¢ gal., f.o.b. Houston; truck $29.95, delivered Ft. Worth, seller's market price on date of shipment.

**Atlanta:** Demand fair; trend steady; supply limited; citrus $18@20, f.o.b. Florida processing plants.

**Louisville:** Demand slow; trend steady; supply normal; 13¢ gal., tank car lots, f.o.b. Gulf ports.

**Boston:** Demand steady; supply ample; 16½¢ gal. in tank cars.

**Milwaukee:** Demand and supply fair; trend strong; blackstrap 13¼¢ gal., f.o.b. New Orleans.

**St. Louis:** Demand slow; trend steady; supply ample; 13¢ gal., tank car, New Orleans.

**Memphis:** Demand fair; trend steady to higher; supply ample; blackstrap 13@13¼¢ gal., tank car, f.o.b. New Orleans, and $29.50 ton, delivered Memphis, truck.

**San Francisco:** Demand and supply good; $25.75, f.o.b. cars Richmond, Cal.

**Los Angeles:** Demand good; trend steady; supply adequate; $25.50, f.o.b. tank cars; $25.75, f.o.b. tank trucks.

**Cincinnati:** Demand fair; trend steady; supply adequate; 13¼@13½¢ gal., New Orleans.

### OAT PRODUCTS

**Memphis:** Demand poor; trend weak; supply ample; 3½% protein, reground oat feed $20.

**Minneapolis:** Market generally down, following oat price reductions; sacked feeding rolled down $1 to $74; sacked feeding oat meal down $1 to $61.50; sacked pulverized steady at $41; sacked crimped down $1 to $58.50; sacked oat feed steady at $20.

**Chicago:** Demand quiet; trend irregular; supply adequate; reground oat feed $12; No. 1 fine ground feeding oatmeal $66; feeding rolled oats $70.

**Philadelphia:** Pulverized white, demand slow, supply fair $47.80; domestic, demand slow, supply light $23.20; Canadian oat feed, demand fair, supply light $31, sacked, nominal.

**Los Angeles:** Demand slow; trend unchanged; supply adequate; local production, pulverized $60, sacked.

**Cincinnati:** Demand poor; trend steady; supply adequate; reground white oats $43@47.

**Louisville:** Demand fair; trend steady; supply normal; reground $23.40, rolled oats $80.90, feeding oatmeal $74.40, crimped oats $62.40, pulverized oats $50.40, all sacked.

**Boston:** Demand and supply fair; white pulverized $54, sacked; feground oat feed $25.

**Portland:** Demand slow; supply adequate; trend unchanged; No. 2 large white oats $55.50.

**Ft. Worth:** Demand slow; supply sufficient; 10% protein oat millfeed $41.80; reground $21.30, sacked.

### OYSTER SHELL

**Boston:** Demand and supply steady; in paper $26.52.

**Los Angeles:** Demand fair; trend steady; supply ample; $15.40, sacked.

**San Francisco:** Demand fair; supply good; local $15, eastern $26, sacked.

**Cincinnati:** Demand fair; trend steady; supply adequate; 80 lb. bags $23.85, 50 lb. bags $24.10, 25 lb. bags $26.35.

**Louisville:** Demand good; trend steady; supply normal; in 80 lb. paper bags $23.95, 50 lb. paper bags $24.20, 25 lb. paper bags $26.45.

**Portland:** Demand fair; trend steady; supply ample; $27.50@35, sacked, depending upon section where produced.

### PEANUT OIL MEAL

**Milwaukee:** Demand and supply limited; trend strong; 26% $48.50 bulk, $52.50 sacked, both Chicago basis.

**Atlanta:** Demand fair; trend steady; supply light; 45% expeller $53, solvent $51, f.o.b. Alabama and Georgia producing mills.

### PEAT MOSS

**Boston:** Demand and supply steady; bale $3.15.

**Cincinnati:** Demand and supply good; trend steady; truck loads $3.45 a bale, f.o.b. Cincinnati.

**Chicago:** Demand and supply fair; trend firm; standard 7½ cu. ft. bale $3.80.

**San Francisco:** Demand and supply fair; $3.65 a bale.

**Philadelphia:** Demand slow; supply light; $3 a bale, f.o.b. pier.

**Los Angeles:** Demand fair; trend steady; supply ample; Canadian 5.6 cu. ft. bales $3.65.

**Portland:** Demand good; trend fully steady; supply ample; $3 a 5.6 cu. ft. bale.

### POTASSIUM IODIDE, U.S.P.

**Chittenango, N.Y.:** Demand good; trend firm; supply adequate; standard trace mineral blocks, 90% U.S.P. K.I. and 10% calcium stearate, magnesium carbonate or calcium hydroxide: 100 lb. drums $1.42 lb.; 200 lb. and up $1.40 lb., delivered basis.

**Cincinnati:** Demand good; trend steady; 90% KI in calcium stearate or carbonate mixtures: 250 lb. drums $1.50, 200 lb. in 100 lb. drums $1.50, 100 lb. drums $1.51, 25 lb. drums $1.53, f.o.b. Cincinnati.

### POULTRY BY-PRODUCTS

**Los Angeles:** Demand good; trend steady; supply limited; $1.60 a unit of protein, sacked.

**Atlanta:** Demand good; trend very strong; supply limited; meat meal $88, f.o.b. Alabama and Georgia processing plants.

**Boston:** Demand good; supply spotty; $58.50@59.50.

**Ft. Worth:** Demand good; supply scarce; $89@92, nominal, sacked, f.o.b. north Texas plant.

### RIBOFLAVIN

**Cincinnati:** Trend steady; feed grade (in feed supplements) 4¢ gm. in less than ton lots in 3.36 to 16 gm./lb. mixtures; 3¢ in ton lots or more, freight prepaid or paid to destination.

### RICE BY-PRODUCTS

**Los Angeles:** Demand and supply limited; trend steady; California production, high fat content, bran $52.50, sacked.

**San Francisco:** Demand good; supply ample; bran $41, sacked.

**Atlanta:** Demand good; trend steady; supply limited; bran $45, sacked, delivered.

**Ft. Worth:** Demand moderate; supply sufficient; rice bran $35@36, f.o.b. south Texas rice mills, sacked; hulls $5, sacked.

### SCREENINGS

**Buffalo:** Demand fair; trend steady to lower; supply good; ground, sacked $34.70, New York; unground, bulk $27, New York.

**Minneapolis:** Supplies limited, but apparently enough to satisfy skimpy demand; Canadian off $1 to $18; domestics steady to weaker; lights steady at low range of $3.10, mediums down $3@4 to $10@18, heavies holding at $23@25; 16% flax screenings $36, nominal.

**Chicago:** Demand quiet; trend steady; supply fair; ground grain $31.50; Canadian $26, sacked.

**Cincinnati:** Demand poor; trend lower; supply adequate; unground grain screenings $15@16.

### SOFT PHOSPHATE

(Sacked, delivered)

**Atlanta:** $20.65.
**Buffalo:** $25.50.
**Chicago:** $24.96.
**Cincinnati:** $23.64.
**Des Moines:** $25.42.
**Kansas City:** $25.07.
**Memphis:** $22.28.
**Minneapolis:** $26.12.
**Philadelphia:** $24.51.
**St. Louis:** $24.32.

### GRAIN SORGHUMS

**Los Angeles:** Demand and trend steady; supply ample; milo $2.25 cwt.

**Ogden:** Supply ample; milo $43@44.

**Ft. Worth:** Demand slow; supply sufficient; No. 2 yellow milo $2.05@2.07 cwt., delivered Texas common points.

### SOYBEAN OIL MEAL

**Memphis:** Demand poor; trend steady to higher; supply ample; prime 44% solvent $63, f.o.b. Memphis.

**Minneapolis:** Strong advance from week ago; 44% up $4.50 to $60, Decatur; 50% up $4 to $66, Decatur.

**Milwaukee:** Demand and supply fair; trend jumpy; $63, Decatur.

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**Portland:** Demand fair; trend higher; supply tight; $84.

**Boston:** Demand fair; supply adequate; 44% $58.50@59.50; 50% $60, both f.o.b. Decatur.

**Cincinnati:** Demand fair; trend higher; supply adequate; $64, Decatur.

**Philadelphia:** Demand and supply fair; trend very unsettled; 44% $61.50, Decatur.

**Ogden:** Supply ample; 41% protein $52@53; 50% protein $57@58.

**San Francisco:** Demand fair; supply ample; $82.50.

**Chicago:** Demand irregular; trend firm on 44%, higher on 50%; supply ample; Decatur basis, 44% protein, unrestricted billing $63 and E.T.L. $58.50; 50% protein, unrestricted billing $69@69.50 and E.T.L. $66.

**Kansas City:** Demand slow; trend steady; supply ample; 44% solvent $61@61.50, Decatur.

**Los Angeles:** Demand fair; trend firmer; supply light; $85.10@85.60.

**Omaha:** Demand slow; trend strong; supply tight; 44% $65.70, delivered Omaha.

**St. Louis:** Demand slow; trend steady; supply ample; 44% $67.

**Louisville:** Demand fair; trend strong; supply normal; $70.50, up $4.30, sacked.

**Atlanta:** Demand fair; trend weak; supply good; 44% $69.20, delivered; for March loaded cars $67, delivered.

**Ft. Worth:** Demand good; supply sufficient; 44% $70@72 March, $71@73 April; 50% $77@79 March, $78@80 April.

**TANKAGE**

**St. Louis:** Demand good; trend easy; supply adequate; $88.

**Louisville:** Demand fair; trend steady; supply good; 60% protein $92.50@97.50, sacked.

**Omaha:** Demand good; trend improving; supply ample; $90.

**Wichita:** Demand heavy; supply insufficient; 60% $90, sacked, f.o.b. plant.

**Cincinnati:** Demand fair; trend easy; supply good; 60% digester $90, Cincinnati.

**Chicago:** Demand and supply fair; trend easier; 60% protein $92.50, sacked.

**St. Paul:** 44% supply ample; demand slow; down $2 from last week to $92@96, sacked.

**Ft. Worth:** Demand good; supply sufficient; 60% digester $90, sacked, Ft. Worth.

**UREA FEED COMPOUND**

**Woodstock, Tenn.:** Minimum 42% nitrogen, 262% protein equivalent; $100, bagged, f.o.b., freight equalized with nearest producing plant; bulk $96.

**Lima, Ohio:** Minimum 42% nitrogen, 262% protein equivalent; $100, f.o.b. bagged.

**Pryor, Okla.:** Minimum 42% nitrogen, 262% protein equivalent; $100, f.o.b. bagged; $96, bulk cars or trucks, freight equalized with nearest producing point.

**Belle, W. Va.:** Minimum 42% nitrogen, 262% protein equivalent; $100, f.o.b. bagged; $96, bulk cars or trucks, freight equalized with nearest producing point.

**LaPlatte, Neb., and South Point, Ohio:** Minimum 42% nitrogen, 262% protein equivalent, $100 ton, f.o.b., bagged; $96 ton, bulk, cars or trucks, freight equalized with nearest producing point.

**Hamilton, Ontario:** Minimum 42% nitrogen, 262% protein equivalent, delivered destination, $100 bagged, $96 bulk, carload or truck load, plus freight from nearest producing point to destination.

**Cincinnati:** Minimum 42% nitrogen, 262% protein equivalent, carloads or truck loads $100 delivered, bagged; less than carloads or truck loads $110, f.o.b. agent's warehouse; bulk $4 less.

**VEGETABLE & ANIMAL FAT (HYDROLYZED)**

**Ft. Worth:** Demand good; supply extremely limited; 6¾¢ lb., f.o.b. north central Texas.

**VITAMIN E FEED SUPPLEMENT**

**Cincinnati:** Demand good; trend steady; 50 lb. or more $1.40, less than 50 lb. $1.45, freight allowed to destination.

**WHEAT GERM MEAL**

**Buffalo:** Demand fair; trend higher; supply poor; commercial grade $70, sacked, f.o.b. Buffalo.

## MONTANA ELEVATOR BURNS

WOLF POINT, MONT. — Fire caused damage estimated at $100,000 when a grain elevator and annex owned by the Occident Co. was destroyed. Firemen said the fire apparently originated toward the top and middle of the tall elevator.

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## COMMENT

(Continued from page 7)

be administered by frail men subject to political pressures and political requirements. There is no doubt that the architects of the Kennedy farm program are sincere, but they are without broad experience in administering farm controls of the type the program envisions. And once they taste the bitter fruits of such operations they may be willing to retire to their classrooms and cogitate on the dismal outlook for any farm program resting entirely on controls over acres, bushels or pounds.

The Kennedy message indicates the use of all of the previous methods to control farm production: Compensatory payments, diversion programs, allotments and marketing quota controls—plus, of course, the use of marketing orders and agreements which might be used to apportion domestic distribution by areas for any crop or class of crop.

**Location of Plants**

Naturally, administration in such detail might fail to take into consideration the location of processing plants for the commodity. Most grain processing plants have been located on the basis of a freight rate pattern. Perhaps U.S. Department of Agriculture officials are prepared to accommodate in their potential controls that internal distribution structure.

Heavens above! One can raise hundreds of problems which the classroom economists now writing the ticket must face.

Congress is unlikely to act quickly on the specific changes in the existing farm laws which the President suggests, but it is not too early for executives to prepare themselves for the possible broad switch in farm law proposed from the White House.

## CLARIFICATION

(Continued from page 1)

could apply to make their programs quite flexible, with prospects of favorable consideration, depending on the types of drugs to be included and the concentration.

Officials of feed associations were conferring with FDA officials further this week, and additional clarification of the issue is expected shortly.

The panel—made up of J. Kenneth Kirk, Ralph Kneeland, Dr. Charles Durbin and William Goodrich—discussed a wide range of questions about FDA policy and enforcement submitted by delegates prior to the convention. A complete report of the discussion will be published later. Frank T. Heffeifinger II, F. H. Peavey & Co., Minneapolis, moderated the panel.

Their appearance was preceded by a review of FDA activity in feed regulation by George P. Larrick, commissioner of FDA, and an appraisal of the impact of FDA regulations on the industry by Dr. Roland M. Bethke, Ralston Purina Co., vice president in charge of research.

**Delaney Clause Change**

Mr. Larrick, as well as members of the panel, said that FDA would be willing to join industry in seeking congressional relief from the Delaney clause on the basis that all drugs be permitted in feeds providing they do not harm the animals and produce no residues in tissues of slaughtered animals. Mr. Goodrich also said that FDA would like to see the grandfather clause eliminated at the same time.

Mr. Larrick said that Abraham Ribicoff, secretary of health, education and welfare, had agreed with him on the amendment matter but that he felt that the initiative should be taken by industry.

**Concentrate Clearance**

Dr. Bethke also commented on the matter of clearance for concentrates. "There is a possibility that this problem will be solved," he said. "At a meeting between industry and FDA on March 7, it was agreed that anyone, whether he is a feed manufacturer, feed dealer, custom-mixer or a feeder who mixes a drug premix containing a new drug from a primary drug supplier must have clearance. However, if a feed concentrate containing a new drug can be considered reasonably safe if accidentally fed without further mixing, the feed dealer, custom mixer or feeder would not be required to have FDA clearance. To what extent this will alleviate the problem is contingent upon studies now in progress."

**Disease Control Problem**

Dr. Bethke called attention to one of the problems in dealing with disease under present regulations: "Disease outbreaks or exposures under field conditions very frequently involve more than one disease. In some instances there are no drugs cleared in combination for the treatment or prevention of two separate diseases at the same time.

"For example, there is no coccidiostat and blackhead preventive or treatment cleared in combination for turkeys. This represents a very real problem to the feeder, to the feed dealer and feed manufacturer. He has a decision to make between letting his birds die of either coccidiosis, or blackhead, or feeding an illegal combination."

**Water Route**

Later in the discussion period, Dr. Durbin commented that such situations possibly could be handled by utilizing the water route of treatment for one of the diseases. He also said he did not understand why no such combination clearance had been requested for feed.

Dr. Bethke said that "there is a real danger that unrealistic requirements for clearance and the safe use of new drugs or combinations of present drugs could bring about a plateauing, or actual defective disease prevention, in the efficiency of animal product production."

## GFDNA

(Continued from page 1)

his keynote address. "Many of your problems in the operation of your business have moved from your local community and are centered here in Washington.

**Interest in Legislation**

"Laws and policies made here will have profound effect on your business back home. I hope that the attendance at this convention is an indication that people who make up our industry realize this and that they will take a deeper interest in any kind of legislation coming from here that affects us."

Mr. Force reviewed the continuing problems of dealing with the Uniform Grain Storage Agreement and the political predicament in which the grain industry was placed during last year's negotiations of the agreement, plus the effort needed to defeat the Yates amendment, which industry representatives felt would socialize the grain warehouse industry.

**FDA Regulations**

"Since the passing of the Delaney Amendment to the Food, Drug & Cosmetic Act and its interpretation by FDA there has been a difficult and complex set of rules for the feed industry," he continued. "Such rules can have a serious impact on the feed industry and its future program."

Mr. Force emphasized that the industry wishes to have a professional relationship with FDA and that in spite of the necessity of opposing the just-passed feed grain bill, the GFDNA "definitely does not wish to vilify any groups and wants to continue a relationship which is professional, but cordial."

Further, concerning regulations, he said, "The industry has become accustomed to regulations, but the regulations must be reasonable enough so that we can live with them in our daily business activities as we continue to serve farm customers and the consuming public."

Referring to the strength and growth of American agriculture, Mr. Force observed, "We in the grain and feed industry are a very vital link in the entire agricultural economy of the nation. The tremendous surplus problem is also our problem, but at the same time we shouldn't have to take the blame for the revolution in agricultural technology and farm laws passed by Congress.

"We have worked hard to solve agricultural marketing problems in the past. Our accomplishments in providing the necessary storage over the past years was a feat of which we can be justly proud—and we can continue to be of help in the future."

**Food for Peace**

George McGovern, special assistant to the President as director of the Food for Peace Program, told the group that with certain modifications, the authority provided by Public Law 480 and the Mutual Security Act, can "provide dramatic solutions to the foreign policy aspects of food assistance, coupled with recognition of the necessary commercial framework for a sound agricultural export program."

He described the various channels through which U.S. surplus foods can be moved to needy nations under the program, through government-to-government arrangements or on a people-to-people basis.

One provision of the program permits dollar sales on a long-term credit basis. In describing this, Mr. McGovern noted that "commercial trade is an integral part of the base from which we must build good international relations in furthering the cause of world peace."

"The approximately 30% of U.S. agricultural exports which is now moving under the various Food for Peace Programs unquestionably strengthens farm income and farmer purchasing power. In lessening supply pressures, these exports also tend indirectly to strengthen prices farmers receive in the market place.

"A less obvious but equally important interest arises from the fact that while the countries participating in the Food for Peace Program lack hard money purchasing ability now, they should become dollar customers as their economies improve."

**Dollar Customers**

He listed several countries which have moved from the category of foreign aid recipients to dollar customers, including Italy, Japan, Portugal, England, Austria, France and Germany. Several others are good prospects for completing this transition, he said.

"Competent, well-informed representatives of U.S. agriculture and U.S. trade have the challenge and the opportunity of assuring that the position of our commodities in these markets is maintained when the shift to commercial importing is made.

"I commend the progress which has been made, and I hope that even better results will be achieved through an improved and expanded program in the future," he said.

**Goals for Agriculture**

In a discussion of "Goals for American Agriculture," Lauren Soth, editorial page editor of the Des Moines Register and Tribune, commented that "in theory, production control sounds like the best solution, but there are two big drawbacks. First, farmers don't seem very enthusiastic about this approach. They aren't willing to put through restrictions on themselves that would really control output.

"There may be exceptions to the general opposition to controls. Some groups of producers of particular commodities may be able to get together on effective production con-

trol programs. If so they certainly should have the opportunity to try."

The second difficulty with controls, he noted, is the colossal difficulty in running them. "Many farm food commodities are closely interrelated. For example, all grains are feed grains as well as food grains. If wheat growers adopted a bushel quota marketing system, without feed grain producers doing so, the burden of the grain surplus would be shifted to the feed grain and livestock producers.

"Another type of difficulty is that quotas and allotments based on history of farms are unfair to new producers of the commodity in new areas. Thus, these allotments tend to hold farms in production of a certain commodity, rather than allowing changes which might be advisable because of new methods."

Mr. Soth said that "one should not be dogmatic about all this," noting that what is needed is experimentation with different methods of improving farm income, working on several fronts, instead of seeking a single formula. He suggested a need for a total reduction of 6-8% below the normal trend which might be expected by 1970. The bulk of this reduction must come in grains, he said.

Other convention features were a transportation forum and an appearance by Rep. Walter Judd (R., Minn.) and discussion with Commodity Credit Corp. officials on managing grain supplies. Reports on these will appear in subsequent issues of Feedstuffs.

## GRAIN BILL

(Continued from page 1)

stances in advance of planting to producers of feed grains who comply with acreage reductions.

"It is not clear, as to how certificate payments to complying corn or sorghum producers will be paid—nor is it clear when USDA may move the certificate demand for grain into the market during the planting season of this feed grain crop year."

As this message was on the wire to the secretary, Mr. Freeman already was on his way to sell his feed grain bill to the Corn Belt. His first stop was slated for Omaha and later Denver. The Brooks wire emphasized the vagueness of the law as enacted and also the methods of the secretary as he assumes the broad discretionary authority now available to him.

**"Pocket Full of Checks"**

Only one thing is seen clearly. Mr. Freeman takes to the Corn Belt, a pocket full of government checks which he will hold out to the corn farmer as a temptation or persuasion to join in a 20% acreage cut-back from 1959-60 outturn in terms of bushel yields—which he may obtain in advance of planting. Or the farmer may obtain a certificate from CCC for a payment-in-kind program for half of his 20% reduction in mind which in turn may be turned back to CCC for cash. And, again in turn, CCC will sell back into the market the equivalent amount of grain in terms of the dollar value of the certificates to compensate it for its disbursement from CCC stock. As of this time no responsible official is present here to explain the possibilities of the implied half-cash payment.

As the vague bill now reads, Mr. Freeman has within his discretion the alternatives of paying the farmer not more than half in cash and half in a payment-in-kind deal or the entire compensation in payment-in-kind.

It was also learned that most of Mr. Freeman's top level staff is also going into the Corn Belt carrying the common message that in effect says: Here is government cash on the barrelhead, or here is the alternative of P-I-K certificates which we will also redeem in cash later.

Mr. Brooks' wire to the secretary merely reflects a composite attitude of the grain trade. More than 1,200 members of the trade were this week attending a national meeting of the Grain & Feed Dealers National Assn. No one seems to know which end is up. No one knows when Mr. Freeman will start selling corn to compensate USDA for its issuance of either cash or P-I-K certificates.

No one is willing to do more than guess at the level of compliance with the feed grain program except to confess that they cannot anticipate the reaction of farmers to the waving of those government checks at the farmers.

A modest consensus of estimates available here is that the Freeman check-waving will effect a compliance of about 25% of corn acreage under the 20% cutback of the 1959-60 corn crop acreage total.

This would mean that on basis of normal yields the corn acreage cutback would amount to 250 million bushels of which only half would be compensated from CCC cash or P-I-K stocks.

Thus it appears that at some undetermined or unstated date, CCC would be able to pour into the market about 125 million bushels of corn to break market prices.

Naturally, the more compliance with the feed grain bill exceeded the modest estimate, the greater the quantity of corn sold would have to be to compensate USDA for its outlay.

Congressional testimony and statements of Secretary Freeman have indicated that USDA will pay off the cost of the higher price support program through sales of CCC grain stocks.

As it is now expected, the certificates of P-I-K will be consummated CCC sales in terms of dollar values for such certificates. Heavy sales of CCC stocks would ultimately, as they depressed the market, require heavier delivery of corn to the certificate holders since it must be assumed that CCC dumping of supplies would reduce the per bushel value of the certificates and require more bushels to redeem the farmer certificate.

This situation might be aggravated if Secretary Freeman withheld cash certificates at the outset and under his discretion made all certificates P-I-K documents.

Virtually all of the grain trade representatives here sensed the feed grain measure as definitely bearish on corn prices in face of the uncertainty of government sales of its stocks of corn, which can only be guessed at this time. Furthermore, they say not only is quantity vague but also the amount of dumping which may occur. The trade attitude is that few if any will wish to carry an inventory of corn in face of an expressed statement of USDA that it will sell corn to depress the market to "nudge" corn farmers into compliance with the proposed cutback in 1961 acreage.

Another aspect of the government program was expressed by a trade observer who says that many corn-hog farmers may comply with acreage cutback since they can store the loan corn in their own farm cribs and then buy back needed corn from USDA at declining prices and merely subtract the corn from their loan commitments on their own farms.

The USDA scientists who have devised this program will rise or fall on the effectiveness of the planning. refuse to take a position on the amount of corn acreage which will go into loan, but few if any are willing to concede Mr. Freeman's estimate that there will be 70% compliance with the corn program.

## TWO-YEAR COMPARISON SHOWS DECLINE IN NUMBER OF HATCHERIES

**WASHINGTON—In two years the number of chick hatcheries has declined 17% and the number of turkey hatcheries has dropped about 6%.**

**The U.S. Department of Agriculture says there were 4,257 chick hatcheries operating at the beginning of 1959, but the number had slipped to 3,513 at the outset of 1961. During this same two-year period egg capacity of these hatcheries declined from 530,057,000 eggs to 508,500,000 eggs. USDA noted that nearly all of the decrease in numbers and capacity occurred in hatcheries with egg capacities of 200,000 eggs and less.**

**The 621 turkey hatcheries operating as of Jan. 1, 1961, number about 6% fewer than the 682 counted Jan. 1, 1959. Turkey hatchery capacity has expanded, however, from 45,544,000 eggs Jan. 1, 1959, to 49,730,000 eggs Jan. 1, 1961.**

## SOLUTIONS

(Continued from page 1)

of poultry health at new research laboratories to be constructed at Athens, Ga., and State College, Miss. Some research in the area is already underway in cooperation with the University of Georgia.

Investigations in the new Georgia facility will be related to poultry disease and the Mississippi laboratory will emphasize management and engineering, USDA reports.

USDA said that much research has been done in specific areas of poultry disease, nutrition, genetics, management and structure, but the new laboratories will allow more on how disease, environment and management influence one another.

**THE ROLE OF USDA IN FURNISHING WHOLESOME POULTRY**—Hermon I. Miller, director, Poultry Division, Agricultural Marketing Service, U.S. Department of Agriculture, told the group that the two most important diseases causing condemnations are leucosis and the various forms of respiratory disease listed under septicemia and toxemia, airsacculitis and inflammatory processes.

He said that on the basis of inspection reports it would appear that the most immediate problem facing the poultry industry is in overcoming the diseases affecting the respiratory system of poultry, but that the most dangerous health problem is in the leucosis area. (See Table 1.)

**INDUSTRY'S PROBLEM IN PRODUCING WHOLESOME POULTRY AND POULTRY BY-PRODUCTS**—Julius F. Bishop, Athens, Ga., broiler producer, said that the industry's health problems are big losses—approaching $150 million a year. He cited a number of things which bring problems. They are: integrated operations in which decisions are made on overall economics, not just a specific lot of broilers; a poultry inspection program that is at least five years ahead of the industry itself, and the fact that easy progress has already been made in the poultry industry and that much currently available information is not economically practical in the field.

Mr. Bishop said, "Briefly and concisely, our health problems in 1960 cost the broiler industry alone over $65 million. Over $22 million of this was in unsalvageable birds thrown into the cans from condemnations, at least an equal amount in medication and perhaps an equal amount in downgrading. Undoubtedly, we had an equal loss in layers, with less than that in turkeys. So you can see, we are talking about big losses—losses approaching $150 million a year."

He continued, "Our inspectors tell us that most of our losses come from birds exhibiting septicemic and toxemic manifestations, probably resulting from a PPLO infection, chronic respiratory disease or airsacculitis. They tell us, too, that the incidence of one or more forms of the avian leucosis complex, particularly visceral, is increasing at a very rapid rate. We are cognizant of the fine work which has been done on these elusive problems at our various laboratories and experiment stations; but we needed the answers to the problems yesterday, and they have not been forthcoming as yet in a form that could be readily adapted by the industry and still allow us to be competitive with other meat industries."

(Summaries of technical reports will appear in next week's Feedstuffs.)

**TABLE 1. Summary of Post Mortem Examination of Poultry in the U.S.**

| Item | 1959 Pounds | 1960 Pounds |
|---|---|---|
| Certified (ready-to-cook weight)* | 4,751,249,950 | 5,067,213,000 |
| Condemned (N.Y. dressed weight) | 81,257,048 | 141,619,000 |
| Per cent condemned† | 1.41 | 2.28 |
| **Carcasses condemned:** | **Number** | **Number** |
| Tuberculosis | 302,549 | 385,392 |
| Leucosis | 1,256,746 | 1,831,891 |
| Septicemia and Toxemia | 8,818,628 | 11,475,815 |
| Airsacculitis‡ | ..... | 15,898,445 |
| Inflammatory Processes | 7,713,195 | 8,733,684 |
| Tumors | 305,429 | 328,898 |
| Parasites | 463,403 | 27,400 |
| Bruises | 369,373 | 386,190 |
| Cadaver | 1,391,973 | 1,346,965 |
| Contamination | 1,085,360 | 1,706,641 |
| Overscald | 248,231 | 218,895 |
| Decomposition | 44,512 | 73,791 |
| Other | 3,341,477 | 2,148,941 |
| Total | 25,340,876 | 44,562,548 |
| Official plants (eviscerating, canning or combination) | 706§ | 854§ |

*Includes rabbits.
†Total pounds condemned divided by 90% of pounds inspected less ante mortem pounds condemned.
‡Reported as a separate cause beginning Oct. 1, 1960.
§As of Jan. 1, 1960.
§As of Dec. 30, 1960—includes 73 combination eviscerating and canning plants.

## SOYBEANS

(Continued from page 4)

meal. At the close of business that day, it amounted to only 71 lots which will be settled by actual tender during the closing business days of this month. It is interesting to note that the total open commitment in all bean meal futures at the close March 21 was 10,681 lots—more than double the total open a year ago.

In the spot meal mart, compared with a week ago (Decatur basis), 44% protein was unchanged for both unrestricted and ETL billing at $63 and $58.50, respectively. On the other hand, 50% at $69@69.50 for unrestricted and $66 for ETL were up $1.50@2 and $2 ton, respectively, for the week.

## Alfalfa Meal Output Up in 1960-61 Season

KANSAS CITY—Alfalfa meal production May 1, 1960, through Feb. 28, 1961, was slightly above output during the same months a year earlier, reports the U.S. Department of Agriculture.

While dehy production was up 4% in the later period—1,178,500 tons compared with 1,132,500 tons—suncured production declined about 18% —from 182,200 tons to 149,300 tons. Together, dehy and suncured meal production increased from 1,314,700 tons in the 1959-60 period to 1,327,800 tons in the same 1960-61 months.

Stocks of all alfalfa meal at producing plants Feb. 28, 1961, amounted to 217,800 tons, compared with 190,100 a year earlier. Dehy stocks at the end of February this year came to 209,900 tons, up substantially from the year-earlier figure of 177,000 tons.

Total alfalfa meal production in February, 1961, was estimated at 22,300 tons, an increase of 2,500 tons from January, 1961, and an increase of 1,500 tons from February, 1960.

## DRUGS

(Continued from page 6)

such additive is intended. Higher levels of the additive than necessary are not permitted.

**DISEASE PREVENTION AND TREATMENT**—The level of drugs that can be used in feeds depends upon the use that is to be made of the drug and the safety of the drug for such use. The drug must be safe not only to the chicken, turkey, pig or cow receiving the drug but also to the consumer of the edible products obtained from the treated animals. There must be no residues of the drug remaining in the meat, eggs or milk at levels that would be detrimental to human health.

**A. Antibiotic Drugs**—The levels of certifiable antibiotic drugs that may be used in feeds are as listed in the antibiotic feed regulations. Section 146.26. Under part (b) of this section, each antibiotic and non-antibiotic drug that may be used in a feed is given. The claims that can be made for the drug are listed and the quantity of drug required for these claims is set forth.

For chlortetracycline in a poultry feed, the regulations permit the claims blue comb, chronic respiratory disease, infectious sinusitis and synovitis. In the treatment of these diseases, the feed must contain not less than 100 grams per ton of feed, chlortetracycline or of the combination chlortetracycline and oxytetracycline except for the claim synovitis when the feed must contain not less than 200 grams of antibiotic per ton of feed.

The regulations also provide that other drugs such as furazolidone and trithiadol may be used in combination with chlortetracycline. The dosages for these drugs and the claims that can be made are set forth in the regulations.

So far, from our discussion it appears that the formula of the feed mixer as submitted to the state feed control official complies with our regulations. The feed mixer is supplying the minimum level of chlortetracycline in his feed as required by the antibiotic regulations.

However, there is one point the feed mixer failed to take into account. This point is, the possibility of residues of drug ingredient remaining in the tissues of the treated animal. The quantity and combination of drugs as permitted by the different paragraphs under part (b) of the antibiotic feed regulations must be kept at a level in a feed which will prevent drug residues in edible products. For the most part, this requires that the regulations be followed to a "t".

Where we have a level of drug in a feed that is higher than the level listed or combination of drugs that is different than those quoted in the antibiotic feed regulations, a question is raised as to the safety and efficacy of that drug. We must be sure in feeding drugs to animals that the drug is safe not only to the animal but to the consumer of the product from that animal.

Unless the Food and Drug Administration has previously approved higher levels of an antibiotic drug than as quoted in the regulations, the higher levels cannot be permitted without additional safety data. The higher level of drug without adequate data would be in conflict with the Food Additives Amendment.

Under the Food Additives law we must have data to show that the higher level of drug in the feed would leave no drug residue in the animal tissue that would be unsafe for human consumption. These data must be submitted before an amendment to the Food Additives regulations permitting the use of the drug can be considered.

For a moment, let us go back to our poultry feed with 400 grams of chlortetracycline. This level we would not approve in the absence of supporting data that would permit issuance of a food additive regulation. Levels higher than 200 grams per ton of feed have not been approved for poultry.

For penicillin and bacitracin we would not approve levels significantly above the 100 grams per ton minimum stated in the regulations, and for streptomycin, 75 grams per ton.

When the antibiotic regulations were first drafted, it was thought that the cost of an antibiotic would limit the amount of the drug that would be added to a feed. At the time, we did not believe it necessary or even advisable to specify the maximum level of the antibiotic that could be used. For ease of handling, the antibiotic regulations were written to include the proviso "not less than."

The drafting of the regulations in this form was not intended to authorize the use of antibiotics far in excess of the amounts stated in the specific regulations but rather to permit reasonable overages consistent with good manufacturing operations and to provide assurance of effective levels for the desired purposes.

The feeding of antibiotics has now become more economical for the most part. Requests have been received by the Division of Antibiotics for antibiotics in feed as high as 1,000 grams per ton of finished feed. The cost of the drug isn't putting a brake on the amount to be added to the feed. As a result, we are having to take another look at our regulations.

We are exploring the possibility of amending the antibiotic regulations to provide for both a minimum and maximum level of an antibiotic that can be added to a feed.

**B. New Drugs**—The levels of "new drugs" which can be added to animal feeds are as authorized in the effective new drug application. The levels as permitted by the new drug application have been shown to be safe for their intended use.

The "new drug" itself may or may not be included in the antibiotic feed regulations. Whether an amendment is made to the antibiotic regulations to include the new drug will depend on the data available. We must have the same safety data on the combination of new drug and antibiotic as we had on the individual drugs.

The most recent two new drugs to be added to the antibiotic regulations are those of zoalene and amprolium. These drugs can safely be added to poultry feeds at levels of .0125% and .025%, respectively. Both drugs are used for the control of coccidiosis in chickens.

Usually, the level of a new drug which can be added to an antibiotic feed is the same as provided in the new drug application. However, the levels could be different if one drug, for one reason or another, affects the use of the other.

**C. Not New Drugs**—If the drug to be used in a feed is considered a "not new drug," it may be used in a feed at a dosage level which is considered safe for such use. Under these conditions of use the "not new drug" does not take a food additive regulation. The "not new drugs" are recognized as having been adequately shown under the conditions of their intended use to be safe.

When the "not new drug" is combined with another drug or is used at levels other than those generally recognized as safe, it may again become a "new drug." For these different conditions of use the drug would be handled as a "new drug."

The use of "not new drugs" in combination with the certifiable antibiotics is as outlined in the antibiotic feed regulations. The combinations and dosage levels permitted in a feed are listed in these regulations.

**GROWTH PROMOTION**—A number of drugs are added to poultry and swine feeds for the promotion of growth and increasing feed efficiency. These drugs include both the non-antibiotic and antibiotic drugs.

**A. Non-Antibiotic Drugs**—Part (a) of the antibiotic feed regulations lists 5 non-antibiotic drugs which may be added to the antibiotic feeds as growth promotants. They are the arsenical compounds and the nitrofurans.

These compounds may be used in antibiotic feeds as specified by the antibiotic feed regulations. The regulations give the feed to which the drug may be added and the quantity of the drug that must be in the feed.

**B. Antibiotic Drugs**—The most widely used growth promotants are the antibiotics. They include penicillin, chlortetracycline, oxytetracycline and the bacitracins. Of these antibiotics, penicillin, chlortetracycline and bacitracin are certifiable. Oxytetracycline is not certifiable except when in combination with one of the other antibiotics.

The total number of antibiotics that may be used in any one feed for growth promotion depends upon the level of the antibiotics being used. So long as the total antibiotic content of all antibiotics in the feed does not exceed 50 grams per ton of finished feed, any number and any combination of the antibiotics may be used. It is possible to have penicillin, chlortetracycline, oxytetracycline and bacitracin all in the same feed.

The feeds to which low levels of antibiotics can be added are limited. The species of animal to which a growth promotion level of an antibiotic can be recommended are specific. Before a drug can be used as a growth promotant data must be available to show that the drug will be effective for this purpose. Although we have not specified in the antibiotic regulations each species of animal to which the low level antibiotic can be fed, they are nonetheless established.

Penicillin, streptomycin, chlortetracycline, oxytetracycline and bacitracin may be added to chicken, turkey and swine feeds for growth promotion. Oxytetracycline and chlortetracycline may in addition be added to sheep and cattle feeds for this same purpose.

Only recently have we considered it necessary to set the minimum level of an antibiotic which must be used in the feed to promote growth. We are now in the process of establishing the minimum effective level for each antibiotic and for each species of animal.

Two antibiotic drugs and their levels have been set for chickens. The antibiotics are: Procaine penicillin and streptomycin. For procaine penicillin, the minimum level considered effective is 4 grams per ton of feed (2.4 grams sodium penicillin master standard). For streptomycin, the minimum level is 30 grams per ton of feed.

If either one or both of these two antibiotics are used in a chicken feed, the feed must contain the minimum level as quoted for each antibiotic. You will find these levels stated in both the antibiotic and food additives regulations. From now on, as our regulations are amended to provide for the use of low level antibiotics in feeds, the minimum as well as the maximum level of the antibiotic necessary for growth promotion will be stated.

The addition of antibiotics to duck, pheasant, pigeon, or game bird feeds is prohibited. The same is true for rabbits. The Food and Drug Administration does not have adequate data on the safety and efficacy of antibiotics in feeds for these animals.

There may be some question as to the wisdom of setting minimum levels of antibiotics for growth promotion. However, we in the Food and Drug Administration believe there is a real need for this action. Only recently we had the opportunity to review a poultry feed formula which contained only 64 milligrams of procaine penicillin per ton of finished feed. We can hardly consider this level adequate to promote growth; we can't even find it in the feed.

**SUMMARY**—What level of drugs can be used in feeds depends upon the use that is made of the drug and the safety of the drug for that use.

To treat diseases in farm animals, the dosage of the drug administered to the animal must be within safe and effective limits for the animal and within safe limits for the consumer. The minimum level of a certifiable antibiotic that can be used in a feed for the treatment of disease is the level specified in the antibiotic feed regulations. This is also the maximum level even though the regulations do not so specify except to the extent that a reasonable overage consistent to good manufacturing procedure is allowable.

New drugs can be used in feeds at the levels specified in the new drug application. These are levels that have been adequately shown to be safe to the animal and will leave no harmful residues in the edible tissues.

To promote growth, the level of a drug that must be in the feed is that level which can reasonably be assured to give a response. The minimum level of an antibiotic necessary in a feed depends upon the antibiotic and species of animal being fed. For chickens, 4 grams of procaine penicillin is required for each ton of finished feed (2.4 grams sodium penicillin G master standard). For streptomycin, the minimum level required is 30 grams per ton of feed. The minimum levels for other antibiotics and for

## Chicks Placed in Principal Broiler Areas

(000's omitted)

| Week ending | Maine | Conn. | Penn. | Ind. | Ill. | Mo. | Del. | Md. |
|---|---|---|---|---|---|---|---|---|
| January 14 | 1,120 | 466 | 778 | 644 | 140 | 756 | 1,886 | 2,204 |
| January 21 | 1,125 | 530 | 586 | 622 | 51 | 743 | 1,940 | 2,283 |
| January 28 | 1,143 | 468 | 832 | 596 | 112 | 739 | 1,919 | 2,299 |
| February 4 | 1,161 | 402 | 878 | 641 | 98 | 921 | 2,040 | 2,380 |
| February 11 | 1,133 | 524 | 897 | 707 | 106 | 855 | 2,070 | 2,400 |
| February 18 | 1,185 | 412 | 949 | 765 | 122 | 816 | 2,013 | 2,220 |
| February 25 | 1,191 | 402 | 956 | 743 | 102 | 767 | 1,939 | 2,427 |
| March 4 | 1,194 | 414 | 710 | 819 | 99 | 843 | 2,115 | 2,076 |
| March 11 | 1,170 | 484 | 908 | 777 | 130 | 722 | 2,092 | 2,046 |
| March 18 | 1,229 | 468 | 928 | 854 | 80 | 749 | 2,138 | 2,186 |

| Week ending | Va. | W. Va. | N.C. | S.C. | Ga. | Fla. | Ala. | Miss. |
|---|---|---|---|---|---|---|---|---|
| January 14 | 1,072 | 516 | 3,475 | 308 | 5,996 | 264 | 3,295 | 2,474 |
| January 21 | 977 | 517 | 3,432 | 351 | 5,963 | 255 | 3,159 | 2,384 |
| January 28 | 1,118 | 406 | 3,479 | 325 | 6,127 | 256 | 3,466 | 2,501 |
| February 4 | 1,040 | 375 | 3,659 | 290 | 6,783 | 270 | 3,672 | 2,724 |
| February 11 | 1,199 | 369 | 3,834 | 400 | 7,211 | 260 | 4,032 | 3,020 |
| February 18 | 1,195 | 462 | 4,099 | 395 | 7,521 | 238 | 4,188 | 2,979 |
| February 25 | 1,026 | 529 | 3,984 | 422 | 7,655 | 223 | 4,404 | 3,085 |
| March 4 | 973 | 465 | 3,895 | 480 | 7,668 | 227 | 4,649 | 2,860 |
| March 11 | 1,238 | 510 | 4,008 | 404 | 7,681 | 259 | 4,737 | 2,952 |
| March 18 | 1,327 | 600 | 4,112 | 449 | 7,739 | 279 | 4,954 | 2,958 |

| Week ending | Ark. | La. | Texas | Wash. | Oregon | Calif. | Total 22 areas 1961 | Total 22 areas 1960 |
|---|---|---|---|---|---|---|---|---|
| January 14 | 4,006 | 423 | 2,145 | 307 | 279 | 1,284 | 33,838 | 32,401 |
| January 21 | 4,205 | 464 | 2,149 | 308 | 231 | 1,224 | 33,499 | 32,615 |
| January 28 | 4,375 | 498 | 2,299 | 289 | 261 | 1,218 | 34,732 | 33,444 |
| February 4 | 4,421 | 507 | 2,499 | 345 | 309 | 1,310 | 36,658 | 34,222 |
| February 11 | 4,694 | 496 | 2,549 | 359 | 273 | 1,293 | 38,725 | 34,706 |
| February 18 | 4,711 | 501 | 2,760 | 373 | 253 | 1,377 | 39,557 | 34,632 |
| February 25 | 4,827 | 556 | 2,707 | 352 | 272 | 1,388 | 39,957 | 34,629 |
| March 4 | 4,664 | 521 | 2,816 | 413 | 305 | 1,447 | 39,643 | 34,769 |
| March 11 | 4,621 | 608 | 2,860 | 350 | 255 | 1,473 | 40,305 | 35,168 |
| March 18 | 4,926 | 620 | 2,950 | 358 | 260 | 1,533 | 41,697 | 35,468 |

other species of animals will be established as data justify.

If the level of a drug in a feed is higher or lower than the levels quoted in the antibiotic regulations or in the new drug application, a question is immediately raised as to the safety and efficacy of the drug. Not only should the drug be effective for its intended use but there must be no residues of drug ingredients in the meat, milk, or eggs that will be detrimental to human health.

We do not believe that a drug should be added to a feed just for the sake of adding the drug. Neither can we condone the addition of a drug to a feed for the treatment of disease when such drug will be toxic to the consumer of the animal products.

Levels of a drug in a feed for which there is no valid purpose or which leaves toxic residues in edible products of the treated animal will not be tolerated. The protection of the public must be foremost in our use of veterinary drugs.

## MARKETS

(Continued from page 2)

Georgia alone for the last five weeks has ranged from 7-7½ million chicks each week placed on the farm, resulting in good broiler feed business. Prices of broilers were up this week 1¢ lb., with the price ranging 16½ to 17¢ lb. f.o.b. the farms. With the present conversion, growers are able to realize a fair profit.

The slow demand for proteins and loaded cars of both soybean meal and cottonseed meal on track have caused producing mills to reduce their prices $1-$2 for quick shipment. Fairly good demand this week is causing the hull market to show signs of strengthening. This is based on the fact that several of the cottonseed oil mills are closely approaching the end of this current crushing season. Good supplies of ground snap corn are still available, selling cheaper than citrus pulp. This has continued to slow down the movement of citrus pulp.

### Pacific Northwest

Oregon, Washington and Idaho formula feed trading was highlighted this week by a good volume movement of broiler, turkey and poultry egg mashes. Dairy feeds, on the other hand, lagged in the face of warmer weather conditions.

Feed ingredient quotations closed steady to firmer on the average despite quiet trading. Trade sources indicated that supplies of most ingredients were adequate to ample but there appeared to be no pressure toward moving offerings as the week closed.

Firmness was noted in some important feeding grains with slight advances for corn and milo and unchanged quotes for oats and barley.

Alfalfa hay trading continued slow throughout the Pacific Northwest with prices for good quality offerings unchanged during the period.

### South Central

There has been no real change in the level of formula feed business this week. Demand continues to be rather dull. Sales, so far this month, have not come up to expectations and, for some manufacturers, are running behind the same period last year.

Some feed men indicate that they think the listless demand is due, to a large extent, to the mild weather and heavy rainfall during the past two weeks. In support of this view, one manufacturer, who usually does a good business with mobile mixing units, said that his volume from this source had fallen off sharply. "The ground is far too wet for the operators to pull into most farms," he said. "We don't expect to get much business from these units until the weather clears up and the feed lots dry out."

Despite complaints of slow business, most manufacturers are operating on a five day basis and have hopes of bettering this soon.

### Ohio Valley

Improvement in the over-all sales volume of formula feeds was noted this week in the Ohio Valley as farmers turned their full attention to plowing, planting and related activities.

Several manufacturers, however, ascribed the slight business improvement to the fact that farmers have been buying on such a hand-to-mouth basis that retailers have been forced to do likewise. As a result, even low tonnage farmers' purchases of necessity are reflected immediately in retailers' orders to manufacturers. It appears likely that this procedure will be followed for an indefinite period, in view of the continuing uncertainty about governmental regulatory measures.

Most of this week's modest sales improvement has been for chick starter mashes and feeds, with the demand for hog feeds only nominal and even less for cattle feeds as spring pasturage becomes increasingly available.

#### GEORGIA MILL BURNS

BLAKELY, GA. — A mid-March fire gutted the Rogers Feed Mill here with damage estimated at more than $15,000. The fire, of undetermined origin, was confined to the mill itself, and an adjoining building was not damaged.

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products in order to retain the business of producers of various sizes and various degrees of specialization and management ability.

For example, for growing-finishing hogs the average producer probably will continue to be sold on the value of using conventional supplements. For somewhat larger producers, the firm may offer "super concentrates" or base mixes, with the producer adding some protein as well as grain; and for still larger and more specialized producers, the feed man says, it is likely that premixes will be supplied.

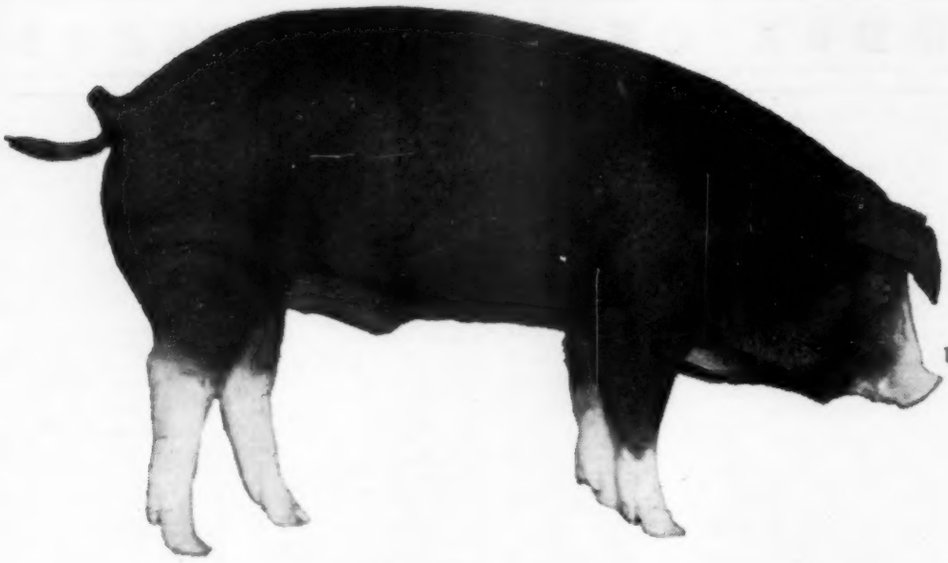
Perhaps many feed men will not approve of or go this route, but some people apparently are developing programs along these lines.

The critical feeds for livestock and poultry should definitely be complete feeds, one feed man commented. But, he added, products for later stages of growth or production will vary in degree of concentration. This feed man feels strongly that handling and mixing of premixes and multiple ingredients are not sound for many producers. But some producers can and will use some of these products, he contends, and feed manufacturers rather than other suppliers will be in the best position to serve these markets.



**THERE CONTINUE TO BE REPORTS** from some areas, from time to time, of new egg programs of one type or another, either in the beginning or planning stages. In some cases, it is complete integration or ownership with feed firms involved. In others, it is contracting with nearby producers. In still others, it is a case of feed companies working to line up and assure good markets for their customers.

At any rate, while most egg production still is on an independent basis in production and marketing, one cannot help but note that as some of the large scale projects develop—and assuming most continue to operate—more and more of the smaller, independent producers will continue to be displaced. And, needless to say, that can affect a lot of feed men who may not be, as some say, "market oriented."



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